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Observations on Cancer. by T. PARKINSON, M. D.

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IN the following observations I purpose to treat of Cancer, distinctly, under two different stages:—1. The scirrhous stage, *Symphylakesis passiva;* 2. The cancerous stage, *Symphylakesis progressiva.*

I have opposed the term Symphylakesis to that of Cancer; and, in rendering the term, the identity of the disease will be displayed.

SYMPHYLAKESIS—Συν-*cum*, with, φυλασσω, *incarcero*, to imprison: *complicated incarceration.*

Symphylakesis is, and cannot be otherwise, a secondary disease, arising out of one of those processes by which inflammation retires; namely, *Proscollèsis*, or morbid accretion. But, as the term implies, it has a peculiarity characteristic of its very nature, and by which it is distinguished from all other diseases, bearing, in external appearance, a strong resemblance. I am called upon, then, to point out such peculiarity. This I hope to be able to do most clearly, in giving the analysis of the disease.

I have deemed it expedient and necessary to banish alto-

gether the hypothetical terms as applied to this disease, *hereditary*, *predisposition*, *idiosyncrasy*, *cancerous virus*, &c. and confine myself to the mere narration of the morbid animal process by which the disease is originally formed, and the manner in which it proceeds to its fatal termination; not deduced from theoretical notions, but from an abundance of practical observation.

It has fallen to my lot to be very generally consulted, both at home and at considerable distances from home, in cases supposed to be cancerous; in many of which I have had recourse to the operation, or, in a greater number of cases, have superintended the operation when it has been performed by others. This has afforded me opportunities sufficiently numerous of examining the diseased parts, after they have been removed by the operation; and in all instances I have discovered, that the disease called cancer consists of what the term Symphylakesis implies, namely, complicated incarceration.

Complicated incarceration, stands opposed to simple incarceration; simple incarceration, signifying merely the imprisonment of any animal solid, by being surrounded by accreted adipose membrane, without vital connexion and intertexture; and, consequently, without any new functions being set up between the incarcerating cyst and the substance incarcerated; instanced in steatomatous tumors and scrofulous glandular tumors: and this form of disease is expressed by the term Phylakesis, *φυλασσω*, *to imprison*. But complicated incarceration signifies something more than what is discovered in steatomatous and glandular tumors of the scrofulous denomination, namely, an association of a vital nature, connexion, and intertexture; and, consequently, a new and adscititious function set up and established between the cyst and the body enclosed by it: this is instanced in the scirrhous tumor denominated Symphylakesis.

The solids so morbidly associated are generally supposed to be gland and adipose membrane: this is the common association in the disease before us, but perhaps not the only one. This circumstance will, however, be enquired into, when we consider that disease which is usually denominated Fungus Hæmatodes.

In the present discussion, I shall limit myself to that parti-

cular disease which is denominated the Cancerous Scirrhus; and which, if uninterrupted, destroys life through the slow and painful process of gangrenous ulceration, and the consequent constitutional sufferings. I shall, therefore, take it for granted, that the morbid connexion and function are established between a gland and adipose membrane.

Now, no such connexion can be formed in a healthy state of parts; while in health, they will each be distinct in their anatomical construction, and will duly exercise their distinct and individual functions: consequently, will be obedient to those laws which govern life, health, and disease, in legitimate solids.

But, when a change of structure takes place from disease, a corresponding change of function also will be the inevitable consequence. Under these circumstances, the subjects of disease will not be governed by the laws of health; neither will they obey those which are rigidly observed under all the primary diseases, in which there is no change of structure; and, consequently, no change of function, except what consists in an increased or diminished exercise of it.

The manner in which this change of structure, and of function, is effected, becomes our next consideration.

The two originally distinct solids, adipose membrane, and gland, become morbibly associated in their substances and in their official capacities: hence, they are no longer legitimate in their nature; neither are they under the control of the laws of the animal economy.

It appears to me essential to the accomplishment of this association, that the gland and the adipose membrane be both under inflammation at the same time, and that they be kept in close contact, so that accretion of the two solids may be fully and firmly established; and, indeed, that they should pervade each other's substance, or so intimately mix, as to become one individual adscititious solid.

The construction of the breasts of women is favourable to this kind of association, they being composed of glandular and adipose substances, in some degree connected with each other, but yet distinct in their structural arrangements and functions; and they require only a less intensity of inflammation than

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what is requisite to destroy the solids; but yet sufficient to produce adhesion, and that the same tone of inflammation be kept up for some time, to unite them in one adscititious substance.

It appears, then, Symphylakesis is always a secondary affection, the resulting consequence of a certain intensity of inflammation remaining after the parent inflammation has ceased; and cannot have existence without inflammation as its cause. Hence, then, is manifest, the necessity of proper attention to those diseases which prevail in the breasts of women, from the approach of puberty till the final cessation of the menses. It is possible, that a slight tone of inflammation, if suffered to be long continued, may be productive, ultimately, of the most serious and fatal consequences.

An enquiry into the nature of those changes which take place in the breasts of girls, and the functions they assume at puberty, and preserve till the approach of old age, together with the manner which, at that period, they are deprived of their function, will direct us in drawing our nosological deductions, and lead us to the most appropriate treatment of those diseases to which they are particularly liable.

In childhood, the breasts of girls are not distinguishable by any external marks or configuration from those of boys; but, at puberty, those of the female have to prepare for the performance of a peculiar office they are expected to be called upon to fulfil; that is, to provide milk for future offspring. In this preparatory process, it is remarked, that the breasts enlarge, and become prominent, in consequence of assuming a new organization at developing what had been hitherto concealed; namely, a glandular substance, with an additional accumulation of adipose membrane: and, indeed, such an accretion seems essential to afford them their official capacity. In this state they remain, with those varieties which depend upon pregnancy, menstruation, giving of suck, &c. till the approach of old age; and then it is, that the functions not only of the breasts, but those of all the female sexual organs, cease; manifested by the incapability of bearing children, the final cessation of the menses, and by the removal of the glandular substance of the breasts, by a process retrogressive of that which established it at puberty.

Now, the breasts of women are not only exposed to injuries from external violence, which are followed by inflammation, but they are also peculiarly liable to inflame, under those changes which they undergo at the approach of puberty, in the intervals of menstruation, during that process, in pregnancy, in giving suck, in weaning; and, in that important change which always takes place at the final cessation of the menses.

At the approach of puberty, it has been already observed, that new appearances, properties, and capabilities, are put on; and, on this occasion, there is, perhaps always, some degree of pain complained of, at least generally there is: and it is not at all uncommon for that pain to be severe, especially on the approach of every periodical visitation, attended with enlargement of the whole substance of the breast. These symptoms, however, are mitigated, or even vanish, on a free menstrual evacuation, until the near approach of the succeeding visitation. This affection is seldom attended with any very serious consequences: so soon as the habit of menstruation is fully established, the complaint ceases altogether.

But there is another morbid affection, which sometimes occurs at puberty, in the acquisition of official capacity, which is more deleterious in its consequences; and to which I would lay claim to your close attention. Instead of the whole of the glandular substance being enlarged and painful, a certain definable part of it only is so affected, somewhat painful, especially under pressure; and is readily distinguished from the sound parts of the breast by its extraordinary hardness or density, forming a tumor describable by the feel. It does not resolve, though it is less painful in the intervals of menstruation.

I have mentioned this affection as occurring at puberty; it nevertheless happens, from adequate causes, at any period between the first appearance and the final cessation of the menses: and, let me add, the adequate causes are, whatever are capable of exciting and keeping up a certain, but low, tone of inflammation, in some distinct part of the glandular substance of the breast and the adipose membrane surrounding it.

A disease of this kind, being formed in early life, will remain dormant, and seemingly innoxious, without causing the woman to complain; will be passive, even when the other parts

of the glandular substance are in the full exercise of their function: but it must be remembered, that, at the approach of old age, the peculiar functions of the breasts are to cease wholly, and that is effected by the removal of that organic substance which was put on at puberty, and in which the official capability resided. All this is easily, and is always accomplished under a natural and healthy state of the breasts: that is, the glandular substance of the breasts is absorbed, leaving the integuments loose and flabby, or more commonly filled with adipose substance. But, under a diseased state of the adipose membrane, and especially under that form which I have described as accretion of adipose membrane, converted, as it were, into ligament, enclosing a part of the glandular substance, united with it in structure and function; an illegitimate substance, disobedient to the laws of the animal economy; it will be readily allowed, that such a production will not so easily be removed: indeed, it cannot; but that process which does actually remove the sound parts, makes the same attempt upon those diseased, and rouses them into deleterious energy: that is, inflames them. They then exercise their own adscititious function, establishing a system of their own; whose basis is morbid accretion and vital connexion between solids of every description, even embracing the bones.

It requires no extraordinary share of atttention and discernment, to discover that the whole of this process is actually progressive inflammation, and should have some influence in directing the method of treatment in the scirrhous stage, or whilst it remains *Symphylakesis passiva.*

From this view of the subject, then, it appears that the scirrhus originates in inflammation; that it remains dormant, as a disease, after inflammation has ceased; at an advanced period of life, it is provoked into action of the same kind, and to the same effect, as that with which it was originally formed; that its progress is accretion, and all its consectaria; that it is not under the government of the laws of natural solids; that its type becomes *progressive;* and that its issue is fatal.

Having traced the scirrhus from its beginning, through its passive stage, down to its cancerous stage, I shall now view it in its progressive type, that is, as *Symphylakesis progressiva.*

What I would have understood by the progressive type, is, that state of the scirrhus which is advancing fast towards ulceration, or is already ulcerated. This state, though not peculiar to advanced age, rarely is met with till towards the approach of the final cessation of the menses. It then, after having been in a quiescent state for many years, is suddenly roused into strong and rapid action. The identity of disease is the same in every period of its existence; that of accretion of one solid to another, with vital connexion established between them: and, although the process commenced with the adipose membrane and the gland, yet it extends to all solids whatever, the skin, muscles, bones, &c.; embracing them all in one solid mass of disease, extending in every direction. The axillary glands become scirrhous, and very commonly the arm on that side is œdematous; the surface of the original tumor becomes ulcerated; the pain becomes severe and lancinating; and the constitutional sufferings are obviously increased. The progress of the cancerous ulceration is peculiar to itself: whilst it increases in all directions, it becomes gangrenous on its ulcerated surface; of course, the neighbouring parts are progressively brought into a diseased, a scirrhous state, and constantly dying by gangrene: consequently, the discharge from the ulcerated surface is highly fœtid, and the constitutional sufferings or sympathies are truly afflicting.

There is, however, a disease of the breasts of women much resembling Symphylakesis, particularly in external appearances and impenetrable hardness, of a character and nature very different. It affects the breast during giving suck, and not unfrequently at a remote period of that process, be the age of the subject what it may.

The disease I allude to, is Phylakesis; or simply, incarceration of a gland, or a number of glands, by accreted adipose membrane, without vital connexion and associated function being established. It generally terminates favourably, by the incarcerating cysts being brought into a state of gangrene by the constant application of cold, and the glandular substance afterwards running into small dissinct abcesses, which heal kindly after a few days: and especially if the woman cease to give suck from that breast.

I have been consulted in a great number of cases of this kind; and have always been able to distinguish them from what is called legitimate cancer, chiefly by the unevenness of surface intimating that it is not any determinate portion of the glandular substance which is diseased, but the whole of it, exhibiting distinct prominences under the skin, without any change of colour of the integuments in the beginning, but increasing in prominence, and gradually acquiring a livid hue, on the external surfaces. Lancinating pains are complained of, resembling those so common in the cancer. I have always employed the same means with the same effect,—success; and shall, therefore, mention what that treatment consists of :—℞. Extract. Conij ʒij. Aquæ fontan. ℥viij. M ft. Lotio, partibus affectis assidùe applicanda. The bowels to be kept rather open with sulphate of magnesia, or any other cooling aperient. The worst cases of this kind have got quite well in about six weeks after the cold lotion has been had recourse to.

Now, I consider the disease I have just described, to be precisely the same as the scrofulous glands which prevail in the neck. I repeat, simple incarceration of a gland by its surrounding accreted adipose substance; and the success I have met with in the treatment of it, in the breasts of women, has naturally led me to the adoption of the same means, when the disease has been resident in other parts of the body. The effects have been similar, though more slow, in progress: that is, the cyst being destroyed by cold, which is easily accomplished, either by the means above-mentioned, or by the generation of more intense cold, if necessary, by the evaporation of spirit of wine or alcohol from the surface of the tumor; then the gland will have the opportunity of suppurating and healing, or of being reduced to its natural size by the process of absorption, and the healthy exercise of the neighbouring parts upon it.

But, to return to the disease professedly the subject of this essay, Symphylakesis. When the disease is once formed in early life, it may, and very often does, give little trouble, and is disregarded, and that even for many years; but, at a certain period, in the way already pointed out, it is roused into deleterious energy: it rages with almost uncontrolable fury, and

consumes its victims by the extremes of protracted torture. It is a matter of deep interest, then, to discover, at least, what constitutes its real character; and, if possible, to obtain a method of treatment, if not altogether adequate to the removal of the disease, when the knife has been too long rejected, yet capable of mitigating that sum of human misery which is so eminently connected with the cancer.

Viewed in the light I have shewn it, I am persuaded there cannot be any conflicting opinions with respect to the means to be had recourse to, when the disease is once known to be instituted. It appears, from what has been stated, that it commences with inflammation of a gland, and a portion of the adipose membrane immediately investing it; that the primary disease, in the act of retiring, by one of those natural processes by which it is known to retire—adhesion, leaves a morbid connexion and adscititious function, set up between the two substances implicated in the disease; and this latter is a secondary affection, the offspring of a primary one, remaining after its parent has ceased to be. Now, there is no means, with which I am acquainted, which can be employed with any reasonable prospect of overcoming this morbid connexion and function, and of averting that misery of which it is the precursor, excepting the actual separation of one of the morbidly-united parts from the other, or the total removal of them altogether from surrounding healthy parts.

The first of these operations appear, from what has been said, to be next to impossible; and, indeed, were it accomplishable, there is no certain test by which it can be ascertained that it is actually effected: and the very nature of the disease points out, what daily observation fully confirms, that any operation, not extended beyond the limits of the diseased solids, will but accelerate the progress of the malady, and aggravate the sufferings of the subject of it. An attempt, then, to effectually and certainly separate the two accreted solids, must yield to the less painful, but more decided and efficacious operation, of the total separation of the diseased parts altogether from those which are healthy.

Certain various opinions have been advanced by the advocates for the operation last-mentioned, respecting the proper

period of the disease for the performance of it. A review of the process by which the disease is originally formed, and by which also it makes its progress through all its stages, will, I am inclined to believe, reconcile any conflicting opinions which prevail, perhaps at the present time, on that question. I would, therefore, recommend a steady and careful examination of the doctrine I have promulgated respecting the nature of the cancer; and, if it be found to be built upon solid and just principles, it will unite all in one consolidated opinion, that the most proper time to perform the operation is, so soon as the morbid process, Symphylakesis, is known to be set up: for what can be the use of delay, when the progress of the disease is identically the same process as that which first formed it, namely, accretion?

A supposition that the cancer was produced by a peculiar poison, would naturally lead to, and in some degree justify the conclusion, that the operation ought to be delayed until it could, with some degree of precision, be ascertained how far the poison had extended its influence; and, therefore, to what limits the operation should be carried. This, however, is not strictly correct; for, if the disease makes progress by the extension of poison, there cannot be any greater certainty respecting the distance it has extended to, after many years' delay, than there was when the disease was first discovered. And so also it is, if the accreting process be admitted as the basis of the cancer, I cannot perceive what advantage can be obtained from delaying the operation any longer than till its true character is understood.

Various methods of treatment have been recommended, approved, adopted; and all, in their turns, rejected: and those, even now applauded, will probably share the same fate, excepting, however, those which have for their bases the total removal of the diseased parts from those which are sound.

The comparative merits of the knife and the caustic are pretty fully determined, and properly in favour of the former; therefore, it is unnecessary for me to dwell upon that subject. I would, however, throw into the scale an observation, which strikes me as being of some practical importance. As the parent of the disease, that is, the primary affection which pro-

duces it as one of its offspring, was *inflammation* resolving by accretion; that, so long as a certain tone of inflammation continues, the accretion will extend, but no longer. Hence it is, that when the disease is formed in early life, it remains passive until the approach of old age; unless, by some casual circumstance, a new accession of inflammation should be provoked. But, let it be remembered, that, at an advanced period of life, the function of the glandular substance of the breast must be abolished, and that by the removal of the glandular substance, by an animal process retrogressive, which first deposited it. This process, although fully adequate to the removal of the healthy substance, cannot be so successful with an association of solids with unnatural function, which constitutes the scirrhus: the attempt, however, has the power, and indeed constantly the effect, of provoking the diseased association into diseased energy; into a slight tone of inflammation; under which state, and under that state only, can the accreting process make advances: consequently, it is only under an inflammatory action that the disease called scirrhus, or cancer, can make any progress.

How plain is it, then, that the primary disease is inflammation; that the secondary affection is a morbid animal process, set up in the resolution of inflammation; that the progress of the cancer is inflammatory; and that the subject of it is such portion of the associated glandular and adipose substances by morbid accretion, which cannot be removed by the ordinary animal process, before the approach of the final cessation of the menses. Not that it is supposed that the scirrhus cannot be brought into an inveterate and ulcerated state before the period of life just alluded to: it often is; nor is it at all more surprising, that the removal of the glandular substance of the breast is sometimes attempted, and even accomplished, in the most vigorous and healthy periods of life. And let me ask, are not these concomitant and simultaneous in all cases where the scirrhus is roused into deleterious energy in early life?

The following inference is deduced from the foregoing premises: that the disease, called cancer, in the breasts of women, is morbid accretion; and the precise subjects of it, are those portions of the breast which cannot be removed by a natural process, at the approach of old age, in common with the sound

parts, in consequence of their morbid change of structure and function, effected by the process of accretion.

Innumerable, almost, are the articles of the materia medica, and other substances, which are comprehended in the catalogue of specific remedies or antidotes; that is, those which have the property of destroying, or of expelling the cancerous poison: and some of them have a most deleterious tendency, such as arsenic, oxydes of hydrargyrus, cicuta, &c. These, and others of no less powerful action on the living animal solids, and, consequently, capable of altering the state of the animal and vital actions, may be tried with safety, under the immediate superintendance of a skilful director; but, the moment he proclaims his success, though that is only delusive, the ignorant will not fail to imitate him, and endeavour to surpass him by venturing to employ the remedy with greater force and frequency, perhaps to the destruction of the deluded patient, than the original recommender dared himself to have done.

The point, I believe, is pretty well settled, respecting a specific virus being the cause and production of the cancer; and that of its hereditary character appears fast retiring into the back-ground of popular opinion. But, how much soever be our acquirement of the knowledge of the real nature of the cancer, little has been discovered of late years which holds up a distant hope of pointing out any remedy, excepting that of removing the diseased from the sound parts.

Many years ago, when Mr. Howard was surgeon, and Dr. H. Vaughan, now Sir Henry Halford, physician, if I mistake not, to the Middlesex Hospital, and had principally the direction of the treatment of cancerous patients, for the reception of which one of the wards of the hospital was appropriated, I had several communications with Sir Henry. I believe, I sent him the history of several cases supposed to be cancerous, and deemed such by his father, then an eminent physician at Leicester, as well as by others of the profession, which yielded to the external application of a cold cicuta lotion.* And I must add, that the diseases to which the lotion had been successfully applied, were of the character which I have fully described;† and

* Vide page 440. † Ibid.

to which, when I had distinguished it from the cancerous scirrhus, and had obtained the means of always correctly distinguishing them, I gave the name of *Scirrhus suppurans;* shewing its resemblance to the cancerous scirrhus in hardness and want of sensibility, but differing from it in its progress and mode of termination. Professing now, however, to denominate diseases from their identities, I have given it the appellation *Phylakesis.*

I shall here take the liberty of introducing a case in point. Mrs. Hubbard, of Countesthorpe, about seven miles from Leicester, a healthy young woman, in an early period of suckling her first child, was attacked with a disease in her breast, which increased in extent, though not in pain, becoming daily harder under the application of poultices and other topical applications, chiefly recommended by her neighbours. At length, finding no benefit, she became apprehensive of evil consequences, and consulted a physician at Leicester. After the application of leeches, and the use of aperients, &c. for some time, the doctor declared it to be a cancer, recommending, as the only certain remedy, the total removal of the breast. The patient consented: lodgings were provided in Leicester, a surgeon fixed upon to perform the operation, and the time appointed. In the meantime, Mrs. Hubbard called upon a lady in Leicester, who, she heard, had undergone an operation similar to that which she was about to submit to: indeed, I performed it. The lady advised her to consult me, previous to being operated upon: she did so, and I immediately discovered it to be phylakesis, not symphylakesis. I declared my opinion, and proposed a consultation with the doctor; to which he objected, on the alleged grounds that there could not be two opinions on the case. The patient, however, put off the operation, and placed herself under my care. I, of course, employed the means I have described; and the event was, she recovered in the way and manner as all other such like diseases have done.

Pressure, as a remedy for the removal of the cancerous scirrhus, has obtained some fashion; and, perhaps, when it can be employed so as to embrace the whole of the diseased parts, and completely cut off all their connexion with the sound ones, and at once destroy the functions of diseased solids, it might

be successful; and yet not so formidable an operation as that by the knife; and would, in many instances, obtain a preference. But, if it fall short of so much efficiency, I should really be under serious apprehension that it would prove an accelerator of the disease, by exciting inflammation.

I may, however, venture a suggestion, with which I shall conclude this paper. Reduce the general animal and vital actions very low; and then destroy the diseased parts by intense cold, so long continued as to prevent re-action, which may be accomplished by the evaporation of alcohol from the surface.

Enumeration of those Indigenous Plants which have an Emetic Effect. By Mr. Gray.

[From the London Medical Repository, for June, 1819.]

Of the several medicines, advised by the London College of Physicians to be kept in the shops of that city, and its neighbourhood, as being in common use amongst their members, there are no less than four which are frequently employed as emetics, namely, emetic tartar, white vitriol, ipecacuanha, and oxymel of squills. It may therefore seem to some superfluous, to recall to the memory of practitioners, the existence of others which grow wild in England, and, although now neglected by most regular practitioners, have been, and still are by some employed as emetics in the cure of diseases.

Those, however, who pay attention to the secondary and even third actions of medicines, after the cessation of their primary effect, must know that those whose primary actions are the same frequently vary in other respects. Thus, in the class of medicines now under consideration, what practitioner is not aware of the difference between the after-actions of tartar emetic and ipecacuanha; so that although when the simple evacuation of the contents of the stomach is the sole object in view, it is indifferent which of these medicines is employed; yet in other cases, when a further and secondary action is required, then each has its appropriate use, and cannot be employed in the other's place. Now, as this difference is well known in these two medicines, which are of daily use at pre-

sent, we have every reason to suppose that every medicine has its peculiar, and in some respects, specific action; and hence the superiority of one practitioner over another, in point of medical practice, will depend very much upon the greater number of medicines their superior reading or experience will allow them to employ.

A real friend to the medical profession sees, with regret, many patients who have tried the routine of the ordinary medicines in the college list, who afterwards apply to persons educated in foreign countries, or hard students in the old authors, and receive that relief which they could not obtain from our simple hospital practice. And with still greater regret he sees the majority of practitioners, instead of endeavouring to extend their knowledge of the materia medica, and acquiring the mode of using the nostrums of their occasionally more successful brethren, contenting themselves with the common shop medicines.

With a view to enable practitioners, especially those in the country, to increase the number of their resources, the following collective view of such emetic vegetables as grow wild in England, or are usually cultivated in private gardens, has been drawn up.

Although an infusion of three to six asarabacca leaves in whey was the most common mild vomit before the introduction of ipecacuanha, yet authors differ much in respect to the other actions of this plant. Some say, thirty to forty grains of the powdered root excites violent vomiting: while others say it works milder than the leaves. It would appear, that neither the root nor leaves ought to be given in substance, but in infusion; namely, one to two drachms of the leaves, or one to three drachms of the root.

The roots of betony, betonica officinalis, are emetic, but very violent, and must therefore be given in small doses.

The roots of horse radish, cochlearia armoracia, are emetic, especially the rind; it may be given either in substance, or still better in infusion, which should be made very strong; it is very serviceable in cases where the stomach is loaded with thick phlegm, as being incisive. An infusion of the seeds is also used for the same purpose.

The expressed juice of the root of common garden radishes, given warm, is considered by some as a good emetic; or a strong infusion made by expression of three drachms of the seed bruised.

The roots of asphodel lily and narcissus, have been used as emetics.

The juice, or a decoction of common groundsel, senecio vulgaris, has been much used as an emetic, in doses of one to two ounces: it acts violently, and is also vermifuge.

Although spinach is not itself emetic, our old botanical writers recommend it as an adjuvant, as tending to facilitate the action of emetics, by inducing a disposition to vomit; and it may therefore be serviceable in a few cases where it is wished to empty the stomach with as little exertion as possible.

The juice of wall-pepper, or stone crop, sedum acre, is strongly emetic, and has been used as such; it is also antiscorbutic. A handful boiled in a pint of stale beer to an half, and two or three ounces of the strained liquor drank warm, fasting, was used with success in the Swedish army, in scurvy. Its immediate action was emetic. The juice taken with vinegar is used by some to cure obstinate agues.

The dried roots of primroses, primula veris, taken up in autumn, in doses of one drachm and a half, operate as a strong but safe emetic; it is therefore probable, that it might be substituted for ipecacuanha, in the usual dose of that foreign root.

The fresh root of bryony, or wild vine, bryonia dioica, in doses of one drachm, has been used in dropsical cases, as an emetic and hydragogue cathartic; also the expressed juice in doses of two drachms to half an ounce. With a view to render its operation milder, the slices of the fresh root have been infused in wine, and then dried.

Spurge olive, daphne mezereum, although an English plant, is admitted a place in the pharmacopœia. The berries have been attempted to be used as an emetic; but their acrimony is so great, that they are to be regarded rather as poisons than as potent but manageable remedies; twelve grains produced almost immediate death: but spurge laurel, daphne laureola, although not in the pharmacopœia, is really the plant which

produces the twigs sold in the shops for those of daphne mezereon; that plant being very scarce, and not to be found about London.

The leaves of buckbean, menyanthes trifoliata, in doses of one drachm, not only vomit, but also act as cathartics; and the seeds are also said to be emetic.

The emetic action of camomile flowers is too well known to need any further notice, especially as they still continue a shop medicine.

An infusion of a handful of water hemp agrimony, eupatorium cannabinum, vomits smartly, and, moreover, acts as a purge; as also a decoction of one ounce of the root.

The roots of herb Paris, or one berry, Paris quadrifolia, are said to act very similarly to those of ipecacuanha; but they must be given in a larger dose.

An infusion of broad leaved pepper-wort, lepidium latifolium, is emetic.

The distilled water of less spear-wort, ranunculus flammula, has the most instantaneous action of any emetic yet known, operating the moment it is swallowed, without exciting that contraction in the upper part of the stomach which the sulphas zinci sometimes occasions, and by which its action is defeated; the juice has been said to have the same effect; but it seems too acrid to be given internally.

Besides the above, other plants common in England have an emetic effect, as the dried inner rind of the walnut tree, a decoction of ash keys, the seeds and bark of the elder tree.

From this recapitulation it appears that the country practitioner has an ample resource, in case of his wishing to try the effect of indigenous remedies, when the foreign or chemical ones fail.

Observations on Rabies Contagiosa. By DANIEL JOHNSON, Esq. formerly a Medical Officer in the Honourable East India Company's Service.

[From the Medico-Chirurgical Journal, for April, 1819.]

HAVING passed all the middle part of life in India, a country by no means friendly to European constitutions, particularly to those, who, like myself, were impatient of confinement and regardless of the climate, I am now suffering from its baleful influence, with little expectation of relief. To amuse the tedious hours of a sick room then, I shall take up my pen, occasionally, to communicate to the author of the "Influence of Tropical Climates on European Constitutions," (a work which needs no encomiums from me) such observations as my long residence in India has enabled me to make; with the hope that they may prove useful to my countrymen in that distant quarter of the globe, especially when promulgated through the medium of Dr. Johnson's writings, which must have an extensive circulation between the tropics.

The subject of this my first paper is Hydrophobia, a dreadful, and, I believe, hitherto an incurable disease. The number of persons bitten by mad dogs and mad jackals, that came under my care, while surgeon at Chittrah, (Rhumghur) would appear almost incredible, were they to be stated here.

In *every instance* where I had time or permission to impregnate the system with mercury after the infliction of the bite, and before the symptoms of hydrophobia shewed themselves, the latter were entirely prevented. If it be feared that I may have been deceived on this point, I hope to dissipate such fears by stating, that not a year passed at the station abovementioned, in which I had not numbers to attend to, *bitten by the same animal.* Of these there were some who, from religious prejudices, would not submit to the course of medicine I prescribed, preferring the prayers of the Brahmin priest. *These* regularly perished by the disease, while the others, bitten by the same animal, and at the same period of time, were invariably preserved from hydrophobia, where salivation was induced.

This, which I think may be fairly called the *experimentum crucis*, I have put to the test so often, with the same identical result, that not a shadow of doubt remains on my mind relative to the entire efficacy of the prophylactic. The proofs, indeed, are positive, negative, and comparative; and I leave it to the consideration of the profession at large, and especially of those employed in our Indian territories, where the occurrence of hydrophobia is so frequent, whether or not to adopt a preventive measure which offers so certain a check to this most dreadful of all diseases. Neither salivation nor any other remedy has ever, in my experience, arrested the disease, when once it had commenced its destructive career.

It often happens that mad dogs or jackals get into the kennels or dog houses in India, and sometimes even mingle with the dogs in the field while sporting. This is when they are in the first stage of madness; and they will then go considerably out of their way to attack and bite all that come in their sight. In such cases a general examination must be made, and every dog that bears the least mark of scratch or bite must be put to death. Even this precaution does not always ensure perfect safety, as the following, selected from several other facts, will tend to show. While I was coursing one day with a leash of greyhounds and four or five terriers, a jackal appeared at a considerable distance on a plain. The greyhounds were slipped; the dogs saw the animal, and immediately made directly for him. To my great surprise, the jackal, instead of making off, ran straight towards the dogs, and I soon discovered that he was raging mad. It was impossible to separate them till they had killed him. I went immediately home, had all the dogs washed, and examined them myself in the most minute manner. I found four favorite dogs bitten, and these were instantly hanged. The others, having no marks of the least scratch, I considered as safe. About three weeks afterwards, however, on my march to Calcutta, my dog-keeper came running up to my tent, one day, crying aloud, and at the same time keeping three terriers, as well as he could, at arm's length, they making all possible efforts to bite him. As soon as he approached, I saw, by their erect hair, like bristles, inflamed eyes, and foaming mouths, that they were mad; I therefore directed the poor

fellow to twist their cords round a tree, which he dexterously effected, and then I caused them to be dispatched with a wooden mallet, used for driving the tent pins. The dog-keeper was bitten in at least twenty places; some of them trifling, others large bites. To the whole of these I applied lunar caustic, and put him into a salivation as quickly as I could. The ptyalism was kept up for fourteen or fifteen days. He lived with me several years afterwards, and remained in perfect health.

On another occasion I had a small pet spaniel puppy, about six months old, tied up in the verandah, which cried out violently, one day, as if something was killing it. On the servant's running to see the cause, a hyena threw it out of his mouth, and very reluctantly went off. The puppy was washed and minutely examined, but no injury could be discovered. The puppy was, however, smeared over with slime, which must have been the saliva of the hyena. No idea was entertained at the time that the hyena was mad, though he certainly quitted the premises with more reluctance than is commonly observed. About three weeks after this, the puppy came running into a room where nearly fifty people were assembled at a notch, or Hindostannée dance, raging mad. The little creature instantly attacked every thing that came in his way, and the whole notch was instantly dispersed in all directions. Several chairs were broken before the rabid animal could be killed.

Whether, in these instances, the dogs received the poison by some of the saliva of the mad animals passing into their mouths, or by respiring the effluvia arising from them, I cannot take upon me to say; but I can confidently assert, that they had no wounds. The above will satisfy gentlemen that, after a dog has been worried, or come in contact with another that is mad, he should be kept tied up for a month, to see the event. I may here state an important fact which I had ample means of unequivocally ascertaining; namely, that in no one instance did a dog become mad, after remaining well after the bite a month. The usual period, in India at least, and as far as came under my own observation, was from fourteen to twenty-five days after the reception of the poison.

There is a generally received opinion in India, that dogs and jackals become more frequently mad there, in consequence

of the number of putrid human carcases which they have to feed on. But this idea is, I think, erroneous; because, at Chittrah, rabid animals are as common as in any part of India, or perhaps more so; yet, in that place, no human carcase is to be seen, in consequence of the abundance of fuel to be procured for nothing, which enables the inhabitants to burn their dead—a ceremony from which the Hindoos are only prevented in any place by scarcity of fuel. I may remark another curious circumstance which I have repeatedly and invariably observed, namely, that the animals above mentioned, are most frequently mad at the time the jungle fever is most prevalent, and *vice versa.*

Finally, may I be permitted to object to the term HYDROPHOBIA; since I have very generally observed that, in the incipient stage of the disease, instead of *dread*, there is the most intense thirst and craving *desire for water*. The power of swallowing the fluid, however, is taken away; and every attempt brings on a violent and painful spasm of the diaphragm and muscles of deglutition and respiration. It is, I am convinced, the dread of such painful recurrences that produces, by association of ideas and feelings, the dread and horror of water, or even the sight or name of that liquid.

D. JOHNSON.

Torrington, Devon, Dec. 1818.

On the Treatment of Puriform discharge from the Ear. By J. H. CURTIS, Esq. Surgeon-Aurist to the Prince Regent.

[From the London Medical and Physical Journal, for May, 1819.]

OF the diseases of the ear, one of the most obstinate and perplexing to practitioners is that attended with a puriform discharge, and so termed from this circumstance. The success of the practice I have adopted in this disagreeable and obstinate complaint has, I believe, been more fortunate than that obtained from the measures generally employed, if we may be allowed to form conclusions from the statements of the best authors on this subject. This cannot be better illustrated than

by the recital of a few cases selected from the records of my practice, in the order in which they have occurred.

Miss B. of St. John-street, aged 26, had been from her childhood affected with deafness and a puriform discharge from one ear. After having been under the care of several eminent surgeons in London for upwards of two years without relief, she applied to me. On inspecting the ear, I found the meatus much excoriated by the discharge, which was very profuse and offensive; the tympanum, I observed, was partly destroyed, as air could be forced out of the passage. In other respects the ear appeared perfectly sound. Adopting my usual plan of not stopping the discharge hastily, I ordered a blister to be applied behind the ear, which was kept open for a fortnight; after which the patient used an injection of zinci sulphas; but this not appearing to have the desired effect, I had recourse to the argentum nitratum, as recommended by Mr. Saunders in cases of this nature. The patient began by using ten grains in four ounces of water, and I increased it to the extent of thirty-five grains, which completely healed the parts; and I had the further satisfaction, at the same time, to find her hearing restored. It may be necessary, perhaps, to mention that it took nine months to complete the cure.

A similar case of a young gentlemen yielded also to this treatment; but his case, though not of so long standing, I at first sight considered more difficult to cure, from his having a polypus extending directly across the meatus, which I removed by an instrument I had constructed for the purpose. Immediately after the operation he was able to hear, but the discharge continued for some time, though at last it was happily entirely suppressed.

Another case of the same nature occurred in a lady, who was sent to me by a physician, whose hearing was defective in both ears, in consequence of a puriform discharge. This case yielded in a short time to a varied combination and change of injections, consisting of solutions of zinci sulphas, plumbi superacetas, argentum nitratum, cupri sulphas camph. joined occasionally with camphor and opium.

A great number of cases of a like description have come under my observation, as already stated, at the Royal Dispen-

sary, and have yielded to a similar plan properly persevered in for a length of time.

The above cases, I trust, will sufficiently prove that diseases of this nature are frequently curable, when a proper plan of proceeding is persevered in.

Abstract of the Anniversary Oration delivered before the Medical Society of London, on the 8th of March last. By T. J. PETTIGREW, Surgeon.

[From the London Medical Repository, for June, 1819.]

MR. PETTIGREW commenced his oration by expressing his surprise, that, considering the frequency of the occasion on which the physician or surgeon is called upon to give evidence in a court of judicature, and that no less than the life of an individual, the forfeiture of his property, or the confinement of his person, are principally dependant upon the testimony of the professional witness, so little attention should have been paid to forensic medicine in this country. "There is not," he observed, "a single course of lectures, either of a public or a private nature, delivered in this metropolis upon this interesting branch of inquiry. Few, very few works have been written respecting it in our language, and those merely of an elementary kind: the advocate is entirely at a loss where to seek for information, by which he may institute such inquiries as are necessary to the correct appreciation of the merits or demerits of the cases in the investigation of which he may be engaged, and to the determining of the validity or vagueness of the criteria which may be stated upon medical testimony. The attention of the medical student, not having been directed to this branch of science, unassisted by those publications which might enable him duly to appreciate its importance, and correctly to estimate the cogency or insufficiency of his opinions, is placed in the most embarrassing circumstances when called upon to give his evidence.

Dr. Haslam has justly observed, that "the important duty which the medical practitioner has to perform, when he deli-

vers his testimony before a court of justice, should be *clearly defined, conscientiously felt*, and *thoroughly understood:* his opinions ought to be conveyed in a perspicuous manner; he should be solemnly impressed that he speaks upon oath, the most sacred pledge before God between man and man; and that the life of a human being depends on the clearness and truth of his deposition." In the first section of the Introduction to the Commentaries of the Laws of England, Sir W. Blackstone has expressed an opinion that the study of the law is not of more importance to medical men than to any other class of society. The learned judge, Mr. P. conceived, was probably led to make the above observation in consequence of the exemption of medical men to serve on juries or inquests; or to undertake parochial offices: but it will be found that physicians and surgeons are frequently called upon to perform duties which require not only a knowledge of the principles of jurisprudence, but of the forms and regulations adopted in our courts of judicature.

The advice of the medical attendant is occasionally required in cases of sudden emergency, respecting a last will and testament. This is admitted by Sir Wm. Blackstone. It is therefore necessary that the physician or surgeon should be acquainted with the laws relating to the transfer or alienation of property either *personal* or *real;* with those relating to the incapacity of persons afflicted with madness, idiotcy, dotage, &c.; for making bequests and disposing of their property; and on this subject they will sometimes be required to give solemn judicial evidence. They should also be familiar with the laws relating to *nuncupative* testaments, or that which depends merely upon oral evidence, being declared by the testator *in extremis* before a sufficient number of witnesses, and afterwards reduced to writing. If it be important, continued Mr. P., for medical men to possess a certain knowledge of law, its forms and regulations; it is no less necessary for the lawyer to obtain some portion of medical information. To know the healthy from the diseased structure; to be acquainted with the several operations of the animal economy; the probable effects of different acts of violence that may be committed on the

various organs of which the body is composed; the morbid appearances produced by the taking of poisons, &c.

To Coroners, in particular, this knowledge is of the greatest consequence, the possession of it would enable them to make a proper examination of the medical witnesses, upon whose judgment the nature of the verdict almost invariably depends: and it would lead them to attach a due importance to speculative or practical opinions, and qualify them for correctly charging a jury. The persons who usually compose inquests and juries have not, and cannot be supposed to possess, any acquaintance with the operations of the animal economy: they are, therefore, necessarily directed by the presiding legal officer.

The Germans and French have paid the greatest share of attention to forensic medicine, and their Professors have published some valuable treatises on the subject: generally speaking, however, they are but ill adapted to the jurisprudence of this country. Medical jurisprudence, legal or forensic medicine, or, according to the Germans, state medicine, divides itself into two principal branches. First, That which relates to judicial cases; and, secondly, That which relates to the preservation of the health of the community.

The first division, to which Mr. P. confined himself in this oration, may be regarded as it relates either to the criminal, civil, or ecclesiastical courts.

I. The cases cognizable in the criminal court may be arranged under the following heads:—

1. Poisons, animal, vegetable, mineral, and gaseous.
2. Wounds and contusions.
3. Apparent death from drowning, hanging, suffocation, intoxication, lightning, excessive cold, lethargy or apoplexy, catalepsy, epilepsy, trances, &c.
4. Abortion.
5. Infanticide, and concealed birth.
6. Rape.

II. Those which belong to the civil court are:—

1. Insanity.
2. Idiotcy.
3. Pretended or assumed diseases.

4. Imputed diseases, consisting of impotence, lues venerea, fits, insanity, fatuity, pregnancy, pretended and retarded delivery.

III. Those which belong to the ecclesiastical court consist of:—

1. Questions relating to marriage.
2. Impotence.
3. Hermaphrodites.

That the orator should enter into detail upon a subject involving so many points for consideration, in the course of time usually allotted to anniversary orations, could not be expected. He therefore confined himself to those points which he regarded as some of the principal desiderata relating to this interesting branch of inquiry.

Poisons, Mr. P. remarked, have of late years been much and successfully attended to. The labours of the Naturalist, the Chemist, and the Physiologist, have been equally exerted to advance this branch of human knowledge. Certainly there are but few subjects more worthy the attention of the Philosopher; to which his researches may be directed with so much advantage to mankind, whether regarded as affording admonitions of danger, as supplying us with the means of averting or remedying serious disorder, or enabling us to detect crime of the most heinous description. It is to the laborious researches of M. Orfila that we are principally indebted for the information we possess on this subject. By a well contrived series of experiments, he has arrived at the most important conclusions. He has described, in the most masterly manner, the physical and sensible characters of poisons in their natural state, and has explained the chemical properties of each of these substances. He has not only detailed the phenomena presented by the action of a great variety of chemical tests, but he has also shown the differences which the poison, when mixed with alimentary matter of various kinds presents, when examined with the same tests, and the changes effected on the poisonous substances by its admixture with the biliary and other secretions. His researches are exceedingly valuable, as they relate to the antidotes to the deleterious effects of poisonous matters. This knowledge has been derived from experiments upon animals,

in several instances confirmed in their results by trials on the human species. He has also pointed out the best methods of detecting the nature of the poisonous substance, whether in its natural state or mixed with any extraneous body. To the juridical Physician his labours are of the highest value, for he has enumerated those symptoms which distinguish acute poisoning from other diseases, showing the variations of those symptoms, according as vomiting shall or shall not have taken place, and determining the degree of confidence which ought to be attached to the experiments, in which animals are made to swallow the matter vomited by the patient suspected of being poisoned. He has detailed the manner of proceeding in the opening of bodies suspected of having been poisoned; and has shown the importance that ought to be attributed to the lesions of texture produced by the different classes of poison; the different states of these lesions in bodies already corrupted, and in those examined shortly after death; whether the poison has been taken during the life of the person, or has been introduced after death.

From this slight sketch of the objects of M. Orfila, the importance of his work, in a juridical point of view, will be evident; but, although much has been effected by this learned Physician, still much remains on which it is desirable we should have information.

Poisons are derived either from the animal, vegetable, mineral, or aerial kingdoms. They may be taken into the stomach by the mouth; into the lungs through the medium of the air; into the bowels in the form of clyster, or into the circulation by means of the absorbent system, conveying them from the skin when applied to it in the form of ointments. They appear to act chemically and mechanically.

Upon being called to an individual who is said to have taken poison, the first point of attention should be to ascertain the kind of poison taken, and the manner and vehicle in which it was taken, whether before or after a meal. The kind of food last partaken of should be examined, as to whether any mineral, vegetable, or animal matter of a deleterious nature should be mixed with it; whether it possesses any peculiarity of taste or smell. It has been recommended to give a portion of it to a

dog, or other animal, to ascertain its effects; but this will afford no certain criterion, as that matter which is poisonous to man, may not be so to brute animals. Goats feed readily upon hemlock, which to man is poisonous. Corrosive sublimate, which to man is a poison of the most violent kind, when taken to the extent of a few grains only, may be given to a horse in the large quantity of an ounce without injury. Dogs are said to be capable of bearing, with impunity, a larger quantity of this drug than man. On the contrary, aloes, which can be taken by the human species in considerable quantity, when given to dogs and foxes in a very small portion, speedily proves fatal.

Many symptoms in common with those arising from the taking of poison, such as vomiting, purging, swelling of the abdomen, griping, eruptions on different parts of the body, &c. may be produced from having eaten of bread composed of grain, ergot, mildew, &c. From peculiar idiosyncracies of constitution many persons are affected in a similar manner by eating several species of fruit, &c. All these symptoms must be distinguished from those which arise from the presence of poison. The matter vomited should be preserved for chemical examination; and should the case terminate fatally, the whole of the contents of the stomach and other abdominal viscera, should be carefully preserved. The stomach in particular should then be minutely examined; also the whole of the intestinal canal; and should no particular appearances present themselves, the heart and its large vessels, the brain, and other viscera, should be attentively examined. It is well observed by Dr. Male, in a late publication of Forensic Medicine, that "unless all the different viscera are examined, a jury should cautiously decide how far surgical evidence is to be deemed satisfactory and conclusive. We should be careful not to give an opinion that a person has been poisoned, without being able to produce irrefragable proof of the fact."

When the mucous coat of the stomach detaches itself easily from the muscular, so that it and the serous coat remain perfectly isolated, Hebenstreit and Mahon regard this appearance as an infallible proof of poison. M. Orfila confirms this remark, as it respects the *corrosive poisons*. These poisons consist of the preparations of mercury, antimony, copper, tin,

zinc, silver, gold, bismuth, the concentrated acids, the caustic alkalies and their earths, the muriate and carbonate of barytes, and cantharides. They are not all, however, capable of producing the same train of symptoms. In certain cases, the poison is absorbed, and carries its fatal action to the brain, the heart, and other organs. In some instances, it is the corroded membranes of the stomach which act by sympathy on these organs, and suspend their functions, without any absorption taking place. In other circumstances, which very rarely occur, death is the consequence of inflammation of the stomach, irritated by these poisonous substances. Mr. P. then enumerated the symptoms produced by this class of poisons. The whole of these, he observed, were not to be expected in every case of poisoning by corrosive substances. Excruciating pain is, perhaps, one of the most constant; yet even this he has known to be absent in a case to which he was called during the last year. The subject of it was a young man, nineteen years of age, who swallowed at least an ounce of the white oxyde of arsenic, at nine o'clock in the morning, and who expired at four in the afternoon. Sickness; thirst; small and quick pulse; coldness of the body, and particularly of the limbs, the skin of which was of a violet colour; great secretion of saliva, were the symptoms under which he laboured. He did not complain of any degree of pain, nor did he appear to experience any upon pressure on the region of the stomach, or on the abdomen. A few minutes before his death, he placed his hand upon the scrobiculus cordis, and complained of a sensation of heat. His sensorial functions were not in the least degree disturbed. Upon examination of the body, the stomach was found in a high state of inflammation, and the mucous easily separable from the other coats of the stomach; it was studded with small particles of the metallic poison, and was very much altered in its texture, being of a pulpy nature. The duodenum was also highly inflamed, and different portions of the intestinal canal. A case of poisoning by arsenic, unattended with pain, is reported by Dr. Laborde, in the Journal de Médecine, Tome LXX. p. 89.

Mr. P. regarded it as a great desideratum to be able to point out the lesions of texture, their seat, extent, and charac-

ter, especially attributable to the different kinds of poison. Those produced by corrosive sublimate are as yet not to be distinguished from such as result from other species of corrosive poison. The lesions of texture produced by arsenic, are generally such as result from inflammation of the mouth, œsophagus, stomach, and intestines. The stomach and duodenum are frequently affected with gangrenous spots, studded with dark coagula, resembling sloughs, but not really such, as is shown by Mr. Brodie, in the Phil. Trans. Part I, for 112, and the mucous coat of the stomach is reduced to a reddish brown pulp. Other viscera often present marks of inflammation.

The orator then proceeded to notice those lesions of structure attributable to poisoning with the various kinds belonging to the first class, noticing particularly those arising from antimony, copper, tin, zinc, silver, gold, bismuth, the concentrated acids, the alkalies, and cantharides. The other classes of poisons were then examined in a similar way, and the lesions of texture produced by these enumerated. Mr. P. dwelt thus long on the subject of poison, because the medical practitioner is most frequently called upon to give his testimony respecting them. A review, he remarked, of what had been said, would clearly evince the great difficulty that exists in determining whether an individual has been poisoned; and if so, to what class the poison ought to be referred. The symptoms in common to many diseases are similar to those which arise from the taking of poison. Many cases on record will justify this assertion. The lesions of texture found after death, in many cases of indigestion, cholera morbus, and some other affections, also resemble those witnessed in the examination of the bodies of persons poisoned. It is therefore, of the highest importance, carefully to note every symptom, and to compare the same with the morbid appearances that may afterwards be ascertained to exist. There is occasion to fear, that for want of this knowledge, some individuals have been condemned upon insufficient testimony. It has been shown, by the celebrated J. Hunter, that the stomach of persons dying from hunger, or from any other cause, in a very sudden manner, is frequently found dissolved or eroded in various parts.

Perforations in this organ have been met with in cases where there could not be any reason for attributing them to the having taken of poison. Thus, he concluded, it is evident, that by the aid of *chemical means*, in order to detect the nature of the substance taken; of *pathology*, to examine into and discriminate the character of the symptoms; and of *pathological anatomy*, to trace the connexion between these and the appearances on dissection, we can hope to arrive at any precise or satisfactory knowledge of the subject on which we may be called upon to deliver a most serious opinion. On the subject of wounds Mr. P. remarked, that it was not necessary for him to speak at length, since, happily, the law looks to the intention, rather than to the effect produced. He alluded to the difficulty of establishing criteria to distinguish wounds, whether mortal, probably or accidentally so, or otherwise. The subject of asphyxia, or apparent death, came next under observation, and the variety of causes producing this state noted. To distinguish apparent from real death, numerous methods, he observed, had been contrived; but it is now generally admitted, that nothing short of the commencing appearances of putrefaction can be considered as a satisfactory distinction. To ascertain whether the vital spark be extinct, or merely dormant, is, indeed, a matter of the highest importance: it behoves us all not to consign to the grave those who appear to have expired suddenly, until such means as are recommended to be adopted in these cases have been persevered in for a considerable time. Examinations of the bodies of persons who have died from the causes mentioned should in all cases be made; they will lead to the best result. In cases of the drowned, the heart, and the right side in particular, is found loaded with dark coloured blood; the lungs are livid and distended with dark blood; there is a frothy effusion often of a pale red colour in the bronchia. Hebenstreit states, that the diaphragm in these cases is found bent towards the abdomen: this cannot possibly be true, as a drowning person continues to expire some time after he has ceased to inspire. In those who die by a stroke of lightning, the blood loses its power of coagulating. This, in a lesser degree, is the case with the drowned.

Infanticide and concealed birth form one of those unhappy

cases which frequently demands the presence of the medical practitioner in a court of justice. Every man of feeling will revere the memory of Dr. Hunter for having written the paper on this subject, inserted in the Med. Obs. and Inquiries. That humane Physician possessed extensive opportunities of knowing intimately the female character. To use his own words; he had seen the private as well as the public virtues, the private as well as the more public frailties of women, in all ranks of life. He had been in their secrets, their counsellor and adviser in the moments of their greatest distress in body and mind. He had been a witness to their private conduct, when they were preparing themselves to meet danger, and had heard their last and most serious reflections, when they were certain they had but a few hours to live. That knowledge of women had enabled him to say, though no doubt there will be many exceptions to the general rule, that women who are pregnant, without daring to avow their situation, are commonly objects of the greatest *compassion;* and generally are less *criminal* than the world imagine. The evidences of guilt in these cases should be most circumspectly examined. Those usually stated as such by medical men can be little depended upon. Prejudice operates but too generally against the unfortunate. Mr. P. then adverted to the several inquiries necessary to be made in these cases; and having shown the extreme vagueness of several of them, Mr. P. passed on to the consideration of medical jurisprudence, as it relates to insanity, which belongs to the civil as well as the criminal courts. On this important head Mr. P. brought forward the opinions of Sir Matthew Hale, Lord Erskine, Dr. Haslam, and some other eminent writers; and then concluded the oration with a few remarks on that branch of police which relates to the establishment of houses for the reception of the insane, and on the economy of which the probability of the recovery of the patients confined within their walls must materially depend.

The late parliamentary investigation, he observed, had brought to light the existence of numerous abuses shocking to humanity; and although it had not hitherto excited a correspondent degree of activity on the part of the legislature for

their removal, yet its results cannot but be attended with the most beneficial effects.

"As no greater trust can possibly be reposed in any individual than that which is confided to the keeper possessing absolute authority over a fellow-creature deprived of the exercise of his reason, and unable to state his complaints or obtain redress for his grievances, it is of the highest importance that great circumspection should be exercised in the selection of those individuals to whom the superintendance of the insane is to be committed. They should be men of unblemished character, of benevolent disposition, of calm and dispassionate tempers. They should unite decision of character with gentleness of manner, to ensure at the same time the respect and fear of those subjected to their control. Mild and consolatory language will, it is satisfactorily proved, tend much to the recovery of the insane; whilst a contrary conduct increases the violence of the disease. If coercive measures, or, I would rather say, the exercise of force, ought ever to be employed, it should be directed to its object accompanied with the least degree or irritation possible. The many fatal accidents which have from time to time occurred, prove the necessity which exists for the keeper's utmost circumspection. Every instrument of danger should be removed from the maniac's sight, that no association of ideas may be created to tempt him to the commission of any act of violence either on himself, or to those around him.

"The peculiar feelings and habits of the different maniacs who are associated together, should be most carefully examined into. Lunatics generally retain some of those prejudices and sentiments, which were imbibed previously to the loss of reason. To place a patient afflicted with deep religious melancholy in the same apartment with one who makes a sport of religion, or to associate a person of a timid disposition with an individual of a violent character, is to commit an act of great cruelty towards one of the parties, and highly prejudicial to the recovery of both.

"To strike, or otherwise maltreat maniacs for any part of their conduct, however outrageous, is an evident dereliction of the very principle on which alone the right of restraining

their persons is founded. The dictates of law, as well as of reason, pronounce them guiltless, in a moral view, of every offence they may commit. They are neither held responsible for their actions, nor are they considered to be susceptible of reform from the influence of opinion, or the fear of punishment. When sent to a mad house, it is not intended that their keepers should act towards them as judges or as executioners, but as guardians of their persons, and alleviators, as far as possible, of the sufferings which Providence has attached to their existence. The unhappy fate of the confined lunatic should be commiserated, and the rigour of his confinement softened by an unceasing attention to his personal comfort. The furious and flighty maniac should be gently soothed to reason, and the melancholic should be roused from the stupor of despair, by encouraging a feeling of his own dignity and importance. By such means alone can the purposes of lunatic establishments be accomplished. The exercise of severity within their walls is abhorrent to every sentiment of humanity, and repugnant to every rule of judgment.

"The present mode of licensing houses for the reception of insane persons, he conceived liable to many objections. A defect, and one of a very serious nature, in the existing laws relating to licenses, is the circumstance of those being excepted from the necessity of obtaining them, who take only one lunatic under their charge. Such persons are also free from the obligation incumbent upon the keepers of large establishments, of stating the condition of their patients, and submitting to the visits of an inspector. The dangerous tendency of these exceptions is so manifest, that it is difficult to conceive upon what grounds they have been originally suggested. The evils of mismanagement in public institutions are of trivial consequence, compared to those which may arise to society from the possibility of any individual being consigned to solitary and perhaps perpetual seclusion."

SELECTED REVIEWS.

The London Dispensatory. By ANTHONY TODD THOMSON, F. L. S., Member of the Royal College of Surgeons, &c. Second Edition, London, 1818. 8vo. pp. 820.

[From the London Medical Repository, for April, 1819.]

THE original compilers of pharmacopœias and dispensatories have been actuated by two very different motives. One being the mutual convenience of the retailers of medicine and of the physicians, or to speak more correctly, the prescribing practitioners, so that the former may always have ready in his apotheca or shop, the drugs and those compound medicines that require time for their preparation, which the latter may be likely to order. The other motive which has led to the publication of pharmacopœias has been that fondness for municipal regulations, and minute rather than general legislation that is so prevalent in Germany, and from thence derived to other nations descended from the German stock. In pursuance of this spirit of legal interference in every action, the colleges or archiaters who have published those pharmacopœias have considered themselves invested with a legislative character, and have in consequence thereof admitted articles into them, rejected others, and ordered certain methods to be followed in the preparations and compositions, as to their judgment has appeared proper; and willed that the other practitioners should abide by their judgment, and use only the articles they prescribe, or take the consequences of their disobedience, by being prohibited future practice within the bounds of their jurisdiction.

The pharmacopœias published by the College of Physicians of London, at least until the year 1745, were certainly written upon the first idea, that of convenience. In 1745, that college imitated their brethren at Edinburgh, in greatly curtailing the number of the drugs and compounds, and in altering the pre-

paration of the latter. It does not, however, appear by any documents or traditions that have reached us, that the London college itself meant to hinder the free exercise of the practitioner's skill and judgment, in using other medicines for the cure of the diseases that fell under their care. The translators of the subsequent pharmacopœias, and the commentators on them, have indeed endeavoured to inculcate this opinion by oblique insinuations, and the denial of any virtues to those substances which have been omitted in the successive revisions and alterations which the pharmacopœia has since undergone.

These translators and commentators, who have thus endeavoured to inculcate that idea which the liberality of the London College itself would probably reject as dishonorable to themselves and to their fellow-practitioners, have not adverted to the difference between practising in commercial cities and in rural villages. Merchants import foreign drugs into the former, and use all the arts of trade to promote their sale, to the prejudice of the native productions. The prescribing physicians are led to order them because they are more certain of their being found in the compounders' shops than the others; and this preference, in like manner, leads the dispensing practitioner to employ them, as having them at hand for use in their quality of compounders: until, in commercial cities, the indigenous productions are left entirely to the use of the amateur or self-practitioners, who are unbiassed in their judgment by any consideration of convenience; or a few professional practitioners who have studied the old authors, and acquired a fondness for their modes of practice.

This preference for foreign drugs naturally passes into the pharmacopœias published in the commercial cities; and although they serve as inventories of the resources of the medical art, which are most usually to be found in the cities where the pharmacopœia is published, yet the country practitioner who should neglect the medical productions of his neighbourhood, which obtrude themselves upon his view, nay, perhaps, even give him trouble to eradicate from his grounds, would be justly accused of ill husbandry, and a lamentable want of economy. It is to be feared, however, from the neglect of

medical botany among those students who frequent the medical schools established in cities, that this is too often the case, and that the country practitioner frequently purchases at a dear rate a foreign drug, adulterated perhaps to half its weight of some inert article, the operation of which may be produced by some rampant weed which overruns his garden.

This work, then, of Mr. A. T. Thomson, as it contains only the articles mentioned by the London, Dublin, and Edinburgh Colleges, is, of course, adapted only for dispensing practitioners in those cities, who are not at the same time engaged in the retail sale of medicines, which would oblige them to keep many articles not mentioned by him: for these it seems a complete work. Being intended as a book of reference, it can scarcely be expected that a reviewer should read it completely over; but from a perusal of such articles as appeared likely to yield a fair specimen of the whole, it seems to be executed with sufficient care. If we except the general idea that the College lists contain the whole resources of the medical art, and the admixture of the compositions of the three Colleges, which is the fertile source of confusion, the only other fault that might be found with the work, taken in general, is that of redundancy; under which head may be ranked the botanical description of the plants which yield many of the foreign roots, barks, &c., but which are not, nor never can be naturalized in these islands; especially as the drugs as sold to the apothecaries are frequently a mixture of the produce of several different plants; the detail of the minerals from whence the metallic substances whose compounds are used in pharmacy are extracted; and the substitution of descriptions for characters in respect to the few indigenous plants that are noticed. When we consider how frequently a work of this kind forms the entire medical library of a dispensing practitioner, we are not disposed to criticise a fault of this kind too severely; although this very redundancy, by increasing the price of these works, may be one cause that those practitioners, contenting themselves with their own experience and a dispensatory, neglect the acquisition of pathological and therapeutic works; the want of which, however, can never be properly supplied by any others.

Observations on a Stridulous Affection of the Bowels; and on some Varieties of Spinal Disease: with an Appendix of Cases. By J. BRADLEY, M. D. Octavo, pp. 283. London, 1818.

[From the Medico-Chirurgical Journal, for April, 1819.]

We have reason to believe that the circulation of a book, and particularly a medical book, is considerably influenced by its title. That of the work before us, though perhaps a very proper, is a very unpromising one, and we *know* that this very circumstance has checked its sale. We shall therefore endeavour to give such an analysis of the volume as will enable the reader to appreciate its value, without any other criterion than his own judgment.

The peculiar noise in the bowels implied by stridor abdominalis, though not confined to either sex, is most peculiar to young females, from the age of twelve to thirty years. Anorexia and dyspepsia either precede or accompany it, from its first attack, together with chlorotic paleness—some degree of emaciation—lassitude. To these symptoms are occasionally added head-ache—pains in the loins and lower extremities. The pulse at the onset, or during the first stage of the complaint is natural, but becomes accelerated towards evening afterwards. Slight rigors, or almost a constant sense of chilliness is prevalent in the day-time, succeeded towards night by some heat, without much increase of the secretions. Some symptoms of gastric derangement accompany the above, with high-couloured urine and sediment. The bowels are constipated; but the fæces not morbid.

"The noise within the abdomen returns at uncertain intervals in the course of the day, and is of no limited duration. The period of its continuance, however, seldom exceeds twenty minutes, or half an hour; and always in this stage, while the patient is in an erect posture; for on lying down, it will almost instantly cease, and be no more heard, as long as the body is in an horizontal posture, during the usual time for rest. Whatever is taken into the stomach, whilst the body is

erect, has no inconsiderable influence in exciting or abating this stridulous sound. For instance, after the patient has sat down to a meal, and taken a few mouthfuls, it will invariably ensue, and continue for some time; after which, it becomes weaker, and more and more intermits till it ceases. On the contrary, however, instead of food producing this effect, it often abates this noise, especially when the stomach is empty, and there is faintness, with a sense of craving for food; which is sometimes most prevalent on rising from bed in the morning, about eleven o'clock in the forenoon, and at five or six in the evening. This noise, which is always under the governance of respiration, is, for the most part, similar to the croaking of a frog, especially on inspiration; but on expiration, somewhat less so, and conveying an idea, as if the sound issued from water, and often, before it ceases, like the plaintive tone of a dying animal." P. 6.

If a hand be placed on the left umbilical region, during inspiration, or near the navel, a sensation is felt as if some liquid was forcibly spirted, or dashed against the peritonæum. If deep pressure be made here, great pain is felt in the region of the stomach, sometimes even to cause fainting. There is seldom either tumefaction or discoloration to be observed in these parts of the abdomen; but the hypogastrium is generally swollen, and pain is felt, when the fingers are strongly pressed on each side of the spinous process of the third or fourth lumbar vertebra from above.

The above described symptoms, though insidiously undermining the constitution, often continue a considerable time, with little apparent increase, and without any alteration in the structure of the spine: but the patient will at length experience a systematic derangement and debility. His complexion will become more sallow, or exsanguious, and his spirits more depressed. The spine, at the place above-described, will now be found giving way, and either slightly projecting anteriorly, or to the left side, taking further lateral or oblique directions, till it comes to press upon the posterior part of the ilium, and causes the anterior spinous process of that bone to protuberate a little in the same direction. This occasions the right hip to appear enlarged, by reason of the hollowness between the

ilium and vertebral column being increased. This lateral distortion also, by dragging with it that portion of the abdominal contents which is more immediately attached to the spine, causes the left hypogastrium to appear more swollen than the right, especially in the evening, when the distortion is generally greatest, from the erect posture of the body during the day. Although the patient may still be able to lie easiest upon this than upon the right side, yet the ribs will be found protuberant; and soon after this, from increasing distortion, the patient will be incapable of lying on either side, from pain in the part. Sometimes the spine takes a counter turn, and pointing upwards, raises the right scapula, together with the superior and subjacent ribs; and, if the distortion be considerable, the head and cervical vertebræ will incline somewhat to the left or adverse side. Sometimes the distortion will advance directly forwards, and remain stationary for a long time; in which case the muscular substance of the sacro-lumbalis and longissimus dorsi muscles, on each side of the lumbar vertebræ will be elevated above the spinous processes, so as to form a deep and narrow sulcus between them.

If the distortion continue to proceed laterally, the symptoms of organic derangement become more pressing. The patient now begins to throw up his food, often attended with pain and uneasiness, or tightness across the stomach. Some pain is also felt in micturition.

Feverish accessions now take place, with various symptoms of derangement and irritation in the system; after which dyspnœa and cough, with hæmoptysis or hæmatemesis, in general, supervene, succeeded or attended by diarrhœa, alternating with partial night sweats, particularly about the head and breast. The urine is now high-coloured, and loaded with a muco-purulent sediment. It is needless to say that from this, till the final separation of mind and matter, the unhappy sufferer presents a spectacle of emaciation and debility which is shocking to behold.

"The noise within the abdomen, which generally continues to increase, will often, in proportion to the distortion, be farther augmented, both in sound and duration; and, as soon as the patient, from weakness, is incapacitated from remaining

erect, it will, in this advanced stage, frequently return, even while he remains in the horizontal position." P. 14.

Causes. The remote cause of this disease may be traced, in general, to a scrofulous disposition, combined with a tendency to spinal disease, from the natural conformation of the body. The proximate cause is less clear, but generally depends, according to our author's opinion, "on a certain part of the spine in a diseased state, occasioned from constitutional, but more particularly from mechanical agency. And, as a proof of the close connexion of cause and effect between the spine and stridulous noise within the abdomen, I have never seen the latter to exist, when tolerably well marked, for the last seven years, when the former was absent, or without its having previously existed, excepting in one case; but the former sometimes exists when the latter is not present." P. 28.

"Females who are under boarding-school discipline, about the age of puberty, and rigidly subjected to it, by being compelled to sit many hours in the day with the head erect, and the shoulders thrown backward, are obnoxious to it; especially if the circumstance of having a long spine and a large head, chest, and upper extremities, be present. Hence the sufferer can scarcely fail having pain in the loins without the means of relieving it; and if we take into account the abominable custom of abridging these unfortunate victims to boarding-school avarice, of the quantity of nutriment which nature more particularly requires at this period of life, we may cease to wonder either at the disease, or distortion in the loins, which accompanies this affection, being the consequence. Not only this long-continued posture, to which the discipline of a boarding-school subjects young females, but any occupation where the lower part of the spine is bent forwards, and the shoulders at the same time thrown backwards, with an increase of the superincumbent weight, will dispose to this complaint. Hence we sometimes find young girls, who are nurse-maids, and of a slender form, that are in the daily habit of carrying heavy children in their arms, or those who have borne weights on their heads, are subject to this malady." P. 29.

Our author has not seen more than four well marked cases of this complaint in the male sex. Three of these were about

the age of puberty, and of delicate constitutions when first attacked. In one a very large tumour, apparently of the encysted kind, formed in the left side, exactly at the point where the verberation was most perceptible; and which, after seven months, broke, and discharged about sixteen ounces of purulent matter. Soon after this, colliquative diarrhœa and night-sweats hurried the patient to his grave. In the second case, there were evident signs of internal suppuration, with a similar train of hectical symptoms.

The borborygmus of hysterical females may be easily distinguished from the stridor abdominalis:—the former having a guggling sound, which is perhaps the most frequent when the patient is in bed; whereas the latter is always governed by the action of the diaphragm, and seldom perceptible when in a horizontal posture; and therefore, easily discriminated from the former. We often, however, meet with a slight croaking of the bowels for a few minutes, which returns frequently, among women troubled with flatulence, and who wear tight stays; but this may not be connected with any spinal disease nor systematic derangement; and may be considered as spasmodic, though under the control of respiration. It is, our author believes, sometimes a prelude to stridor abdominalis, and often an attendant on other spinal affections, especially on distortion, or displacement of the upper lumbar or lower dorsal vertebræ. The beating in the abdomen can scarcely be mistaken for the abdominal pulsation mentioned by Haller and others.

Thoughts on Spinal Affections in general. Under this head, Dr. Bradley makes several pertinent observations on the *mechanical* causes of distortion of the spine. He regrets that Mr. Pott, who had such ample opportunities, "had no idea of the frequent displacement of the lumbar vertebræ." He draws the following corollary, deducible from observation, namely; "*in proportion as any part of the spine diverges, or recedes from its centre of gravity, or is the more mechanically acted upon, it is the more liable to distortion.*" If this be admitted, he thinks that mechanical agency has frequently no inconsiderable share in the production of this malady.

"And besides, the unexpected amendment in the patient's general health, as well as in external appearance, too sudden

to be ascribed to the absorption of carious bony matter, on the superincumbent pressure being removed, is another evidence that indisputably proves the frequent existence of this cause, and the necessity of guarding against it." P. 35.

On mechanical Agency in the Cure of Distortion. Our author supposes, that the frequent endeavours of the patient to adopt such postures as are likely to afford himself relief, most probably suggested the principle of such mechanical contrivances as have hitherto been resorted to. These contrivances have been various; but the most effectual, natural, and easy method, is the horizontal posture, which takes off the superincumbent weight from the diseased part.

"It is really surprising, in some cases of distortion, when we have reason to ascribe the efficient cause to mechanical agency, to observe the happy effects of lying in bed; especially if attended with symptoms of febrile excitement, accompanied with irritation, and derangement in the thoracic or abdominal viscera; as insensible perspiration is thereby increased, the body becomes of a more equable temperature, and the rest of the suspended secretions are now restored. The appetite also returns, and the patient grows plump and taller, with a consequent diminution of the curvature." P. 39.

Dr. Bradley conceives, that a disease of the spine may exist under two opposite states, which he denominates active and passive. The symptoms attendant on the *active*, indicate general or local irritation, as slight accessions and remissions of fever; pain on pressing the curvature; pulse accelerated; urine high-coloured, with mucous or lateritious sediment. The distortion here is not large—forms an acute angle, with considerable compression of the medulla spinalis and its consequences. But the most pathognomonic symptom of this variety is a furred tongue, especially towards the root, and generally exhibiting a yellowish tinge, with little or no thirst. In the *second* variety there is more general laxity of fibre, with a soft, and often a less contracted pulse; the urine is paler, and mostly without sediment; the tongue also is cleaner, and there is no thirst. The curvature is larger, more obtuse, and without pain. The paralysis in the lower extremities is less considerable.

In the first, or active variety, as the grand object will be to

abate chronic inflammation and fever, caustics will display their best effects, especially if the progress of distortion be arrested, and no serious inroads be made into the constitution.

"Notwithstanding the good effects of caustics in this variety of distortion, yet the frequent application of a blister will be attended with equal, if not with superior advantages; as it produces, *a priori*, more clearly a double effect, not only by affording a discharge from the part, but, by every new excitement of pain, giving a fresh stimulus to the nervous system." P. 47.

Leeches or cupping should precede both caustic and issues, if there be pain or soreness in the diseased part on pressure. But it must always be remembered, that the removal of pressure from the diseased portion of spine is the *sine qua non*, whether that removal be effected by mechanically sustaining the superior parts, or by horizontal position.

Spinal Disease, unaccompanied by Change of Structure.—The lower part of the dorsal, and the whole of the lumbar vertebræ, as well as the sacrum, are much exposed to sprains and external injuries. The immediate effects of these vanish, and a long interval of undisturbed health, with the exception of some transitory pains in the part, on catching cold, may ensue. But ultimately, the patient is frequently seized with a new order of symptoms, which are often considered as having no relation to the real cause. Hence a secondary disease supervenes, which assumes such an anomalous character as no experience or physiological acumen is always competent to unfold.

At the commencement of this new affection, which is generally called forth by a scrofulous taint in the system, the patient complains of dyspepsia, with languor and mental despondency. The countenance assumes that sallow, exsanguine appearance so common in spinal disease. Slight fever accompanies these symptoms; the tongue is foul, especially near its root, and the patient is chilly and susceptible to cold. Sometimes, however, the complaint is ushered in by a smart attack of fever, supervening after some lapse of time, to injuries done to the spine. The pain consequent on these spinal injuries is often so trifling as scarcely to be felt, except when the patient

has fatigued himself with loco-motive exercise, or been some time in an erect posture, especially if at the same time the super-incumbent weight be increased, either by carrying burthens, or by manual exertion. The proper remedies here are topical bleeding and caustics, to the use of which a certain reaction of the vascular system will ensue, indicating a diminution of the latent disease.

"Sometimes, when the seat of the disorder is in or about the lowest dorsal vertebra, pain or soreness is felt in the right hypochondriac, epigastric, and umbilical regions. The abdomen is tumefied in consequence of wind and costiveness, attended with a slight degree of soreness and discolouration; which, together with a defect of nervous energy, constitute a train of symptoms that is mistaken for hypochondriasis. Under these circumstances there will be sometimes a slight ptyalism, which is no very uncommon symptom of spinal disease, particularly of the dorsal and lumbar vertebræ. There will also be occasionally about the clavicle, a dull pain, and the tunica albuginea will exhibit a slight icteric tinge. The urine will be somewhat high, and inclining to the orange colour, but seldom containing any bile. The bowels here are also constipated, but the stools appear natural, though occasionally dark or ash-coloured. From a collective review of these symptoms, the practitioner may be apt to suspect some disease of the hepatic organs, and advise the use of mercury; but, on trial, he will find no advantage from it, either in small doses as an alterant, or in saturating the system with it." P. 81.

When this disease occupies the uppermost lumbar vertebræ, it will sometimes simulate nephritis, or calculus, or lumbago; but may, in general, be distinguished from these affections by attending minutely to the symptoms which are pceuliar to them. When the species of chronic or sub-acute inflammation is confined to the lowest dorsal, or the uppermost lumbar vertebræ, and not attended to in its incipient stage, the consequence will sometimes be either lumbar or psoas abscess.

There are few affections, as our author justly remarks, to which the human body is subject, that are more obscure, or more frequently mistaken, than chronic inflammation of the spine, unattended by any displacement of the bones. 1st. Be-

cause little pain is usually felt at the place of mischief. 2d. Because the irritation is often in the parietes of the abdomen in a transverse direction with the disease in the spine. 3d. Because there is frequently a sympathetic pain on one side of the head, which is often so very distressing as to engross the attention of both patient and practitioner. 4th. Because dyspepsia, pyrosis, vomiting, tightness across the præcordia, and other sympathetic affections contribute to mark the real seat of the disease. Dr. B. thinks he has observed the pain in the head, in general, confined to the right side, especially when the spinal disease was in the left. It often begins just below the mastoid process, and passes in the direction of that part of the temporal bone behind the ear, extending itself upwards, so as to occupy the right side of the occiput. In the night there is commonly a remission of the pain, but it returns with increased violence in the morning. It ultimately affects the power of vision. A part that is very liable to these sympathetic pains is a situation about, or at a short distance from the anterior spinous process of the ilium, and mostly on the left side. The epigastrium, however, is the most frequent seat of the sympathetic irritation, when the primary disease is in the opposite part of the spine. The whole of these sympathies are not only painful, but so embarrassing as entirely to engross the attention of patient and physician. Hence the sufferer has, as we have often known, been harassed by a long-continued course of severe treatment, without gaining any permanent advantage; whereas, had remedial measures been directed to the immediate source of the mischief, a cure would, most probably, have been obtained.

The sacrum is often the seat of the disease, and requires no ordinary discrimination to detect it, particularly in its nascent state. The prominent features of the symptomatology in this case are, according to Dr. Bradley, pain in the sacrum; pulse small and contracted, not much accelerated; anorexia; languor; constipation of the bowels; tongue more or less coated; sense of chilliness or rigors in the day time; slight degree of pain and weakness in the lower extremities; sometimes tenesmus, or uneasiness about the rectum. This state will continue for a longer or shorter period, when there will be a

great aggravation of all the symptoms. This aggravation is often the precursor of suppuration, forming either externally or internally, attended with caries of the bones. If the matter form outwardly, in young subjects, recovery may take place; but if internally, and after puberty, death is generally the result.

"In this country, where scrofula is so insidiously prevalent, we often detect diseases of the spine, such as form the subject of this chapter, by attending to their sympathies, which have been treated as idiopathic affections, to the distress and negative advantage of the sufferer. Dyspepsia, which is symptomatic, and often accompanied with those sympathies of the head already described, and which is often thought to be the occasion of them, is considered as idiopathic; and, when the tonic plan of treatment is adopted in consequence, it is mostly productive of injury, by increasing systematic as well as stomachic derangement. When, however, this effect is produced by tonics, there will always be ground, under these circumstances, for suspecting some spinal affection." P. 93.

The Disease in Children. When this affection is attacking the spine of a child, the mother or nurse will observe that the little one is more dull than usual, is weaker, and more disposed to be quiet than on its legs. She will also observe, that the child seems uneasy in certain positions, particularly when laid on the lap. To detect the seat of the disease requires some address. The surgeon should run his fingers gently along both sides of the spinous processes of the vertebræ; and he must do this several times, in order to give the child the idea of being played with. After gaining the confidence of the little patient, he may then venture to increase the pressure, which will soon point out the diseased part, evinced by the shrinking or crying of the child. The examination is again to be repeated along the whole spine, with the addition of some little pressure uniformly applied; and if the child complains most at the same point, which is often between the middle dorsal and middle lumbar vertebra, the practitioner may then conclude that he has discovered the seat of the disease. Some fever and a furred tongue occasionally accompany this affection in children. Here Dr. Bradley glances at a certain species of

paraplegia, or paralysis of one or both of the lower extremities, which is mostly peculiar to children about two or three years of age, and neither attended with distortion, nor proceeding from any known cause; as the little sufferer is generally in apparent good health previous to the attack; but which is succeeded by symptoms of reaction, such as thirst and a furred tongue, with increased heat and perspiration in the night.

"I have also observed, that in proportion as the lower extremities are paralysed, the patient will exhibit signs of animation and bright intellects; and hence he always excites peculiar interest and commiseration, on beholding him dragging behind him his dangling limbs, and perhaps, heading a little troop of playful companions, and directing all their childish evolutions." P. 96.

This is a very curious phenomenon, but seems to be accountable on the well known principle that when one organ is functionless, another organ will become capable of increased action.

In proportion as the limbs become shrivelled and flabby, all the rest of the body will be directly increased in muscular energy.

Cure of Disease of the Spine without Distortion.—At the onset of the disease, and before much progress is made, repeated abstractions of blood from each side of the spine, by cupping in adults, and leeching in young children, will often supersede the necessity of any farther local means; but when the complaint has advanced farther, a more permanent drain is necessary to prevent a return of the complaint.

"Caustic issues or a copious drain are therefore our principal dependence; and, if timely had recourse to, will be productive of the happiest effects; but to ensure which, it will be necessary, not only to make the caustics penetrate deeply, so as entirely to destroy the cutis, but so extensive as to comprehend, if not the whole, a very considerable portion of the integuments covering the subjacent disease; the propriety of which will be seen on the well known principle, namely, the effects of a drain on local disease being always inversely as to its distance." P. 101.

Our author is decidedly in favour of large caustics, and

he objects strongly to the premature removal of the slough, as it deteriorates the discharge, and the sore is thereby rendered foul and unhealthy, from part of the eschar remaining, and which will be slower in digesting off, than if the slough had never been interfered with. As soon as a copious and healthy discharge is obtained, all symptoms of local and general irritation subside; and in proportion as this is kept up, the patient will, in general, progressively recover; but if this discharge, from any cause, be suddenly diminished before the disease be subdued, and which is sometimes the case, the effects are soon perceived by the failure of appetite, and a partial recurrence of the general symptoms. Although the caustic eschar ought, in general, to be allowed to slough off without the intervention of art, yet as some application must be employed, the common resin ointment, either alone or mixed with spermaceti ointment, spread thinly on lint and covered with adhesive plaster, may be used.

"I have seldom made caustic issues in adults, in any species of spinal affections, less than two inches and a quarter in length, and one inch and one-third in breadth, and sometimes of greater dimensions; and when the disease is confined to one, or even to two vertebræ, these prove excellent drains." P. 106.

In addition to the use of these drains, the medicines already recommended in cases of local and general excitement will be proper; and after the inflammatory symptoms are subsided, some mild tonic may be given. Bark, however, or any other stimulating tonic, should be ventured on with caution; for as long as thetongue exhibits furr, we ought to be sceptical as to their propriety. When, however, the appetite ceases to improve under the use of these drains, and the tongue is but little furred, the pulse remaining soft and languid, and the urine little changed from the healthy state, tonics may be ventured on.

"Although copious drains are strongly recommended, yet they are not always successful. When the pulse is under a hundred, the greatest advantage may be expected from them. When it ranges from this number to one hundred and ten, their effects are slow, and more uncertain; but if still further increased, and the tongue display a thick and brownish furr—

and especially if there be any visceral disease, attended with colliquative discharges, copious drains are seldom adviseable, as they are productive of no permanent advantage, and sometimes are injurious, and consequently may expose the young practitioner to much censure." P. 108.

As another means of cure, it will always be adviseable to take off the superincumbent pressure, on the principle of abating irritation, by either adopting altogether the horizontal posture, or some well-adapted mechanism. In the first stages of the disease, patients will seldom submit to these restrictive measures, but in the advanced stadia the remedy is indispensable; for if caries and consequent distortion ensue, after the age of puberty, the patient generably dies tabid.

We have now given a very full analysis of the didactic and descriptive part of Dr. Bradley's Work, two-thirds of which is composed of an Appendix of Cases illustrative of the foregoing precepts. Of these cases, which are very numerous, we shall not attempt to give any account, but refer to the work itself.

Dr. Bradley is evidently a man of accurate observation, and patient indefatigable investigation. Perhaps, however, he has been too prolix, both in his descriptions and cases, which indeed is the common fashion, or rather failing of the times, and is therefore excusable. The work is a very valuable addition to spinal pathology.

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1. *Report of the Select Committee on Contagious Fever in London: Ordered by the House of Commons to be printed,* 20*th May*, 1818. pp. 52. Folio.
2. *A Bill to establish Fever Hospitals, and to make other Regulations for the Relief of the Suffering Poor, and for Preventing the Increase of the Infectious Fever in Ireland: Ordered by the House of Commons to be printed,* 19*th May*, 1818. pp. 12. Folio.
3. *Reports of the Practice in the Clinical Wards of the Royal Infirmary of Edinburgh, during the Months of November and December*, 1817, *and January*, 1818, *and May, June, and*

July, 1818. By ANDREW DUNCAN, junior, M. D. F. R. S. E. Fellow of the Royal College of Physicians, Professor of Medical Police, and of Medical Jurisprudence in the University of Edinburgh, and one of the Physicians to the Royal Public Dispensary and Lunatic Asylum. Edinburgh, 1818. 8vo. Constable & Co.

4. *A Succinct Account of the Contagious Fever of this Country, exemplified in the Epidemic now prevailing in London; with the appropriate Method of Treatment as practised in the House of Recovery: To which are added, Observations on the Nature and Properties of Contagion, tending to correct the Popular Notions on this Subject, and pointing out the Means of Prevention.* By THOMAS BATEMAN, M. D. F. L. S. &c. Physician to the Public Dispensary, and Consulting Physician to the Fever Institution in London. 8vo. pp. 177. London, 1818. Longman & Co.

5. *Medical Report of the House of Recovery, and Fever Hospital in Cork-Street, Dublin.* By F. BARKER, M. D. Honorary Fellow of the King's and Queen's College of Physicians; Professor of Chemistry in Trinity College, Dublin; and Senior Physician to the Hospital. 8vo. pp. 80. Dublin, 1818. Graisherry and Campbell.

6. *Observations on Contagion.* By WHITLEY STOKES, M. D. Honorary Fellow of the College of Physicians; Lecturer on Natural History to the University of Dublin; late Senior Fellow of Trinity College; and late Professor of the Practice of Medicine. 8vo. Dublin, 1818.

7. *Statements relative to the present Prevalence of Epidemic Fever among the Poorer Classes of Glasgow. With some Suggestions for affording more adequate Assistance to the Sick, and for Checking the further Progress of the Contagion: in a Letter addressed to the Honourable the Lord Provost of Glasgow.* By RICHARD MILLAR, M. D. Lecturer on Materia Medica in the University, one of the Physicians to the Infirmary, and to the Glasgow Lock Hospital. 8vo. Constable and Co. 1818.

8. *Practical Observations on Continued Fever, especially that Form at present existing as an Epidemic; with some Remarks on the most efficient Plan for its Suppression.* By ROBERT

GRAHAM, M. D. Regius Professor of Botany in the University of Glasgow; President of the Faculty of Physicians and Surgeons; and one of the Physicians to the Royal Infirmary, Glasgow. 8vo. Constable and Co. 1818.

[From the Edinburgh Review, for March, 1819.]

IT may be questioned whether, in the present state of society, the epidemical visitations of a contagious disease are not productive of more misery than war itself—fertile, as it unquestionably is, in every species of calamity. The actual victims of war are not only numerically fewer, but, for the most part, belong exclusively to a class openly and almost voluntarily devoted to war horrors:—while epidemical sickness is an evil that threatens indiscriminately every class of the community; and is chiefly afflicting, from its invading that cherished sanctuary of domestic life, in which the happiness of every individual must mainly centre. The universality of the infliction; the anguish of the immediate sufferers; the distress of relatives, and often the subsequent poverty and desolation of families, conspire to fill up the measure of misfortune, and give to the destructive operations of an epidemic, a character of the deepest gloom,—which is not, like the fatal scenes of a battle field, cheered by one spark of valor or patriotism, nor redeemed by one consoling sentiment of duty or fame.

The unhappy prevalence of Contagious Fever for the last two years, not merely amongst the poor and destitute, but amongst those whom opulence has placed far above what are generally held to be the causes of infection, forms an evil, which, if not altogether novel in its nature, is at least so in its extent. Its causes, therefore, and the means of arresting its present ravages, and of preventing them in future,—are topics that should not, in circumstances like the present, be left to the discussion of physicians, but should be taken up by the politician and the philanthropist: and accordingly, it is gratifying to find, that the matter has been deemed of sufficient importance to deserve parliamentary investigation. In our humbler province, we should wish to do something in the same good cause; and have for this purpose, selected the able tracts whose titles are prefixed to this article. Our object, however, is not

to analyze the mere medical information they contain, though that, we readily admit, is very respectable, but to convey to our readers some more practical and popular considerations on fever in general, and particularly on the present epidemic.

From history we learn, that, in no era of the world, has society been exempted from epidemic fever; but it has always committed its chief ravages at those distressing junctures when war and scarcity had been extending the dominion of evil beyond its ordinary limits. For example, after every irruption of the Goths into the Roman provinces, epidemic sickness was sure to follow, and to thin the remains of population which the sword had spared. Indeed, on most occasions of general or local calamity, whether in ancient or modern times, contagion has made known its destructive presence; and in this way has the poison been perpetuated from age to age, and from year to year. From the remotest periods, down to the present day, it has been reproduced an infinite number of times, and in an infinite variety of constitutions, without any perceptible alteration in its character or laws. Sometimes it has extended only to a few; at other times it has spread amongst multitudes: yet, with whatever scope of operation it has appeared,—whether epidemical, and ravaging a kingdom, or confined to a hamlet or a hut,—it has never become wholly extinct; but has lurked, a fatal spark among the neglected embers of society, ready to burst forth into a blaze at every favourable opportunity.

In the present epidemic, the same effects have resulted from peace, that were wont, at other times, to result from war: for it is well known, that it was not till after the return of peace, when a suspension of trade and pecuniary embarrassments from a war of unexampled length and expenditure, began to press upon the population, by privations of unusual severity, that sickness became generally prevalent. None of our readers require to be reminded of the unprecedented stagnation of every branch of commerce and manufacture which marked the gloomy years of 1816 and 1817; and the consequent scarcity of all kinds of employment. The labouring poor who, in ordinary years, had maintained themselves and families in tolerable comfort, were thrown out of work by thousands, and abandoned not only to want, but to that heart-breaking depression of spirits, which

we firmly believe to be more deleterious to the health and functions of the human frame, than inclement seasons, or any ordinary morbid causes, of a description merely physical. To poverty and mental depression, debility from insufficient nourishment was speedily joined; for the failure of the crop in 1816, superadded the inflictions of providence to the pressure of political adversity. Had it not been for the multitude of our charitable establishments, and the unusual wide-opening of the hand of private benevolence, we verily believe that hundreds would have died of actual famine, and exhibited, in these kingdoms, a calamitous set-off against any afflicting occurrences of this sort recorded in history. Even as it was, the distress was enormous, both in extent and degree; and we have in our possession details of suffering, and of the disgusting substitutes for food to which the poor were driven, that would produce horror, as well as pity, in the minds of our readers, were we to state them: we shall therefore pass over the shocking minutiæ of this subject.

Want of fuel, and of proper cloathing, were also evils of first-rate magnitude; and, with their necessary consequence—filth, rendered the wretchedness of the poor scarcely susceptible of additional aggravation. Can it be wondered at, then, that febrile contagion, which is seldom dormant in large cities, should spread widely in such a mass of apt materials,—or that, when fanned by the sigh of despair on the one hand, and of hunger on the other, it should be blown up into one of the most raging epidemics that has appeared for many generations?

Scarcity of labour, and the misery and the privations of every sort which thence result, are but the first in a train of greater evils that, in such calamitous times, assail the poor. Suffering, too often leads them to vice and to crime. The want of intellectual resources leaves them accessible to every sort of immorality, but more especially to a degrading intemperance; for, in the temporary excitement of intoxication, they hope to assuage that gnawing canker of the mind, which is little less intolerable than hunger itself. Again, how frequently does the poor man's conviction, that 'the world is not his friend, nor the world's law,' goad him on to theft or robbery,—to the reck-

less destruction of a fellow-creature, or of himself! And surely, if misery thus predisposes him to moral evil, we may cease to wonder that it should also render him greatly susceptible of natural disorders.

In this hasty sketch, we have touched upon the chief moral and physical causes of the epidemic; and these are, in our view, reduced within very narrow limits; namely, an original, unextinguished contagion—fostered by these accidental circumstances, viz. depression of mental energy from want of employment, &c.; depression of bodily vigour from want of nourishment; and, in all probability, a peculiar constitution of the atmosphere not hitherto distinctly explained. We are aware that many able authors hold, that concomitant circumstances alone, such as foul air, filth, putrid animal effluvia, cold, wet, fatigue, and bad diet, will generate contagion, even though none previously existed. Dr. Bateman, in particular, seems still to hold this doctrine, and expressly maintains, that want of nourishment has been the great cause of the present epidemic. His words are—

'The history of all nations affords abundant evidence of the constant concurrence of dearth and pestilence. The pestilence appears to have generally assumed the character of a contagious fever, modified in its form, and more or less virulent and fatal, according to the circumstances under which it occurred.' p. 1.

'As epidemic fever *is unquestionably generated, in the first instance*, by defective nutriment; so we cannot doubt that it continues to *originate* in many successive individuals, during the existence of its cause, independently of any communication with each other,' &c. p. 11.

Now, we will confess that this doctrine appears to us not only to be erroneous, but to be the very reverse of true: For we believe that deficient nutriment, provided it do not go the length of impoverishing the blood, and thus depraving the solids, instead of being favourable to the existence of fever, is the very reverse; inasmuch as it lowers the tone of the constitution, and lessens the liability to all diseases of increased excitement. Without speculating about the relation of fever to inflammation, or stopping to inquire whether the increased action in the system which follows the application of conta-

gion is an original part of the disease, or merely an exertion of the medical powers of nature, we are sufficiently borne out by facts when we say, that it is to this increased action, or to the exhaustion which *necessarily* follows it, that fever owes its general fatality. By consequence, it is reasonable to believe, that in those who have been scantily fed, the disease is less apt to occur, or if it does occur, the increased motion of the blood-vessels is of a less durable and vehement character, and infinitely more manageable, than in those who had been lolling in repletion and indolence up to the moment of attack; and in whom the fibre is necessarily more rigid, the vessels more prone to engorgement, and the disposition to undue excitement more exalted. Nor is this opinion merely theoretical; we have the evidence of many facts confirming it, did our limits permit us to state them. Out of the many, however, we may mention the very strikng one, that, in the present sickness, fever has been proportionally more fatal among the rich than the poor.

The general principles, therefore, which we have been explaining, remain unshaken, and are summarily these:—that exclusively of the febrile diseases attended with eruptions, such as small-pox, measles, &c. there is but one species of contagious fever, namely, typhus:—that this disease admits of several varieties, but that all of them arise from specific contagion as their sole cause,—a cause, without which all other auxiliary circumstances would be inefficient. Nevertheless, we are decidedly of opinion, that such auxiliary circumstances are essential in paving the way for the operation and dissemination of the poison, by begetting a general state of predisposition. In fact, situated as we are, there is scarcely an influence or element which may not, by its excess, produce in our system the unfortunate state of preparation we allude to. Adversity may agitate, intemperance may derange, excess of study or of fatigue may exhaust, and want of food may debilitate;—thus rendering the body more liable to the power of contagion, or more easily thrown into fever by a dose of the poison so trifling as, in other circumstances, would have been harmless. Nay, further, we do not absolutely deny that a series of these predisposing circumstances constantly applied, may, by their incessant operation, excite fever in the system without the aid

of contagion at all; but the malady thus excited, though often mistaken for the genuine typhus, is only an occasional—incidental—or, to use medical language, a sporadic disease; and as it is not derived from contagion, so it never becomes contagious in its progress, or infects the healthy who hold intercourse with the sick, unless its original nature is changed by crowding and deficient ventilation. But the more ordinary way in which these noted predisposing circumstances exert their effects is, by rousing into action the contagious virus already received into the animal system;—or, in other words, by becoming what physicians call 'exciting causes.' There is every reason to conclude, that contagion is often inhaled, without any fever being the consequence: and, we firmly believe, this happy exemption would be more frequent, were not the latent powers of the poison accidentally fostered and evolved by the assisting circumstances so often referred to.

We have already seen, that these 'lædentia'—these injurious circumstances—are partly of a physical and partly of a moral nature: the chief of the former order are, want of nourishment, inebriety, fatigue, and cold; and of the latter, grief, mental anxiety, or despair. It would be difficult to say which of these two are the most ruinous to health: the operation of the former is, to be sure, more intelligible; yet the influence of the latter on the vital functions in health and disease, is a subject of most interesting speculation to the physician and the moralist. Many phenomena in the history of our species lead us to believe in the governing power of mind over matter, to an extent, at first sight incredible. How often have energies, purely mental, enabled men to retard the assaults of sickness, and even the chilly approach of death! On the other hand, a sudden relaxation of these energies lays them open even to the minor causes of disease, or perhaps subjects them to ideal calamities. It has long been remarked, that in armies, or other large bodies of men, disease makes little progress while the mind is strongly engaged, and the exciting passions steadily kept alive by enterprize or success; but that, as soon as great reverses are experienced, and mental depression ensues, diseases make very great havoc,—being increased not only in their general number, but in their individual fatality. What

takes place after a disastrous campaign, was pretty accurately shadowed out in that gloomy season of public adversity which reigned during the early part of the present epidemic, and which rendered its mortality, as might be expected, greatest at first.

Although the predisposing circumstances already pointed out must be highly instrumental in exciting and diffusing typhus, still, it is evident, something more must happen ere that fever can prevail as an epidemic. To be convinced of this, we have only to recollect, that at all times, in a crowded society like ours, contagion must meet with mental depression from moral causes, and exhaustion from scarcity, with all their sequelæ of filth, intemperance, and the like, ready prepared to aid its operation. But seeing that, even under this conjunction of circumstances, epidemics do not prevail at all times, nor even very frequently,—it is manifest some additional auxiliary must yet be wanting. The contagion of measles, scarlet-fever, or whooping-cough, like that of typhus, is never wholly extinct in any country; yet these diseases only prevail epidemically during particular seasons:—It therefore becomes a very interesting point in medical physics, to determine the reason why they spread some years so much more widely than others. We cannot say that we have yet met with any very satisfactory solution of this curious and interesting question. The phenomenon, we are afraid, cannot be explained: and we must be content, in our ignorance, to refer it to the influence of what was styled by Sydenham and the older physicians, 'peculiar constitutions of the air' during certain years, or portions of years, disposing the body to take on one kind of diseases in preference to another. What this peculiar state or constitution of the atmosphere favourable to epidemics is, we know not: yet we cannot help believing that it exists; and that the occult quality, whatever it may be, has no relation to the thermometrical or barometrical conditions of that fluid. Whether it is at all connected with its electrical states, it would be fruitless to conjecture. Sydenham conceives, upon slight enough grounds, that 'it proceeds from a secret and inexplicable alteration in the bowels of the earth, whereby the air is contaminated with such effluvia as dispose bodies to this or

that disease as long as the same constitution prevails, which at length, in a certain space of time, withdraws, and gives way to another.' For our parts, from attending to the history of health and disease during a succession of seasons, we are persuaded that changes of mighty importance take place in the air we breathe, without their being at all appreciable by either our eudiometers or hygrometers: and this we must, at present, be satisfied to receive as an ultimate fact, for which we cannot account.

The existence of a special condition in the air, as the leading cause of the spreading of various epidemics, is by no means without close analogy in its favour. For example, every one knows that, in the East-Indies, liver complaints are remarkably frequent; though the climate, so far as depends on heat, moisture, &c. is entirely like that of the West-Indies, where such complaints are comparatively rare. Again—it is a matter of almost daily observation, that an east wind is highly disagreeable to valetudinarians, and unfavourable to the cure of some diseases: it has even been known, in the course of one night, to change for the worse all the ulcers in a large hospital. This, however, must be attributed to some latent peculiarity in the wind that now and then blows from that quarter; for neither its cold, its dryness, nor its barometrical properties, can account for the effects it occasionally produces.

This unknown constitution of the atmosphere, then, we take to be a *sine qua non* in the production of epidemic fever; and that, if contagion is a prerequisite to render the spreading of the disease possible, the aërial change is also a prerequisite to render that spreading probable. When these two principal causes meet with the favouring circumstances formerly explained, all of them act and react interchangeably upon each other; and the result of such a complication and union of noxious agencies, is an epidemic such as we see it.

While on the subject of atmospheric influence, we may add a word on the received opinion, that cold is peculiarly favourable to typhus contagion; and that atmospheric warmth extinguishes it altogether. The latter proposition, we think, may very reasonably be doubted, since there are no facts that we know of directly to confirm it; and all analogy is against it;

so that we might rather expect, *a priori*, that our fevers should be aggravated by heat, as all the violent fevers of southern climates, arising from marsh exhalations, are rendered more virulent by high temperature. Plague also—the most contagious of all human diseases—rages most violently in such degrees of warmth as are more nearly allied to extreme heat than to cold. On the whole, we are rather inclined to think, that heat operates beneficially upon typhoid contagion, only by giving occasion to its being dissipated and diluted, and thereby rendered innocuous: because, in hot weather, the abodes of disease and filth are necessarily thrown open to the winds of heaven, and due ventilation, often fruitlessly recommended by the physician, now that it becomes indispensable as a matter of common comfort, is enforced by the poor themselves.—As corroborating this opinion, we refer to Dr. Barker's valuable Report; where he has shown, by a table, that the fever in Dublin went on, during the whole summer, progressively increasing.

It will not be irrelevant to add a few words on the manner in which the matter of contagion may be admitted into the body. It may be conveyed into the stomach by the saliva; or it may be absorbed by the skin, in some instances: but we are convinced, that by far the most ordinary way is inhalation by the lungs. It is in this way applied to that delicate membranous expansion which covers all the minute blood-vessels, distributed with such an infinitude of branches around the air-cells of the lungs. We have little doubt but that the poison, thus applied, is absorbed by the blood, and thus finds its way into the course of the circulation. Besides its general effects on the sympathies of the nervous system, it seems to deteriorate the mass of blood itself, and render it unfit to maintain the irritability of the heart, and the excitability of the brain. Some of the most conspicuous phenomena, particularly in the last stage of fevers, are referable solely to this depravation of the blood. On this matter, however, we shall take occasion to say more hereafter.

This is all that we think it necessary to observe on the causes of the present epidemic. We must now say a word or two on the means of cure; and in so doing we shall chiefly aim at removing popular prejudices, on points where they are most per-

nicious. We may remark, by the way, that the only safe rule for the treatment of typhus is, that there should be no general rule at all. Each epidemic varies in its character; and almost every case of the same epidemic has circumstances peculiar to itself, which must modify the treatment. We often observe a highly malignant disease produce one of an opposite type in others, and the contrary: so that there is no judging *a priori*, or from any thing but the actual symptoms, what the precise treatment in any given case ought to be. Yet, were we bold enough to venture on any thing like a general maxim in physic, we should certainly lean to the side of the evacuating system,—sensible that this method, invariably pursued, would do infinitely less harm than the opposite.

The symptom in fever that first alarms a patient's friends, is debility; and, to remove it, all their well-meant efforts are earliest directed. But it is dreadful to think with what lamentable consequences they are often attended. We firmly believe, that the fear of debility has been the destruction of thousands of lives, by the rash treatment to which it has given birth. It is quite a received axiom amongst the poor, that weakness must always be met and supported by cordials; and that strength can only be communicated to the languid frame through the medium of generous diet. How often do we see their fevers, during the first three or four days, when alone medical treatment can be of much avail, not merely neglected, but—what is infinitely worse—goaded into malignity by stimulating treatment! The unhappy patient is put to bed; warm malt liquor, or even spirits and water, are administered at intervals; and the stomach is loaded with nourishing broths or cordial panadas; and thus every thing is hurried on from bad to worse. We can scarcely conceive any thing more important to the safety of society at large, than to convince ignorant and prejudiced persons of the folly and danger of such a practice. To the admonitions of the professional man they too often turn a deaf ear; or they comply with them very imperfectly, and even, perhaps, act in direct and dogged opposition. This evil well deserves the notice of the humane and enlightened. It is only from the kind advices of those who, from their rank in society, or other causes, have influence

over the minds of the lower orders, that we can expect a salutary reform in this particular.

If there is any thing true in medicine, it is, that debility, during the first days of fever, is only apparent,—and that the first stage is one of *oppression.* Instead of increasing this oppression,—instead of spurring the over-wrought vital powers by ill-omened stimulants, do not nature and reason point out that the system should be unloaded and tranquillized, and that the stomach should be relieved from the drudgery of digestion? Even admitting, for a moment, that nutritious food were required under such circumstances, it is quite obvious that it could never be digested nor assimilated: it must lie as an uneasy load, and embarrass those vital functions which it cannot sustain. As well might we screw up the barometer in order to bring fair weather, as thrust down nourishment into a powerless stomach and a feverish frame, in order to recall strength.

There is, among this class of society, another cardinal error; to wit, that of forcing a perspiration in fever, 'to carry it off,' as their phrase is. Misled, in the first instance, by the sense of chilliness generally present, and by the sweat which nature now and then, perhaps, employs as the means of dissolving the febrile paroxysm, they bury the unlucky patient in bedclothes, and every refreshing access of air is carefully excluded: perhaps, to add to his torments, a fire is kindled, and the sufferer lies sweltering in clammy oleaginous perspiration, panting for breath, and rapidly becoming exhausted by the murderous kindness exercised towards him. Surely, than this, nothing can be more cruelly injudicious; for every medical man, with the least pretension to experience, must have seen cases on cases where, even after the most profuse perspirations, whether breaking out naturally or elicited by art, no permanent relief of the febrile symptoms has followed. This system of forcing perspiration, then, is useless, and worse than useless; for it is sure to do harm, by augmenting and fixing determinations of blood to the brain and other parts essential to life, and by causing an accumulation of the stimulus of morbid heat. If perspiration be a desirable object, we know of no more likely means of bringing it out, than to take off the febrile

stricture of the skin by the free admission of cool air, the use of cool drink and light bed-clothes: but, indeed, sweating is generally to be regarded rather as the effect, than the cause of the departure of fever. This should never be forgotten.

The use of emetics at the beginning of the disease has been sanctioned by so many great physicians, that it has now become a popular practice, and is often resorted to at first without any regular medical advice. The practice in this indiscriminate way, is certainly liable to many grave objections. The exertion of vomiting powerfully propels the blood to the brain, and sometimes gives rise to such an irritability of stomach as all our subsequent efforts cannot allay. Surely the more obvious benefits of emetics as evacuants, may be secured in many cases by purgatives, which do not expose the patient to the same dangers.—We do not deny their great utility in many cases; for example, where, previously to fever, the stomach has been over loaded by indigestible food: we also admit that the succussion their operation gives to the whole system is useful in removing inward congestions of blood, and developing the necessary and salutary stage of moderate reaction. What we contend for is, that the unlimited, and therefore empirical, employment of them in all cases, even when the cold stage is gone by, is frequently unnecessary, sometimes dangerous.

We next come to speak of another remedy which has been said to possess the power of arresting fever, and which, by its high promise of general benefit, a few years back, greatly excited the hopes of physicians and philanthropists:—we mean the affusion of cold water on the naked body. This practice was introduced to general notice by the late amiable Dr. Currie, whose distinguished talents, both as a physician and a man of letters, will be long remembered. The remedy, indeed, was by no means new: and was probably resorted to in the very infancy of the healing art as a natural and summary cure for excess of heat. In proof of this, we have the testimony of travellers, to show that savage nations, both in the Eastern and Western hemispheres, have been in the habit, from the remotest times, of treating their occasional fevers by ablutions with cold water; and we think this simple expedient is very likely to have suggested itself to rude minds. (See Bancroft's

Essay, p. 95.)—We are far from saying this with any view of lessening the merit of Dr. Currie: for 'if,' as Malpighi observes concerning our illustrious Harvey, 'in arts and sciences he is properly to be deemed the discoverer, who by a proper investigation unravels Nature's perplexities and calls in reason and experience to support, and facts to confirm,'—then truly will Dr. Currie be esteemed the discoverer of this remedy.

After many patient and persevering trials of cold affusion in the fevers of all climates, it seems to be now laid aside almost by common consent. That it does not possess the power of cutting short the disease, is admitted on all hands; and the conclusion we have formed is, that its effects are beneficial, so far as they go, but transient. We have never seen it effect any premature solution of the complaint, nor have we often been so fortunate as to witness its tendency to sleep and perspiration. But though it possesses not those commanding effects which its benevolent proposer taught us to look for, and though the relief it produces is but temporary, it is a valuable auxiliary, and may often be made co-operative to the recovery of the patient. In the first place, it conduces to cleanliness,—removes, for a time, the grievous irritation of febrile heat,—and produces considerable refreshment and exhilaration; lessening that feverish anxiety, and relieving that loathing at the stomach, which are so depressing in all the stages of the disease. For these reasons we think that the practice itself, or at least a modification of it, should be adopted in most cases. At the same time we should add, that we have seen a good many instances where the affusion would have been dangerous, on account of the commotion of the nervous system; and others where the mere fatigue attending its frequent administration, for to be useful it must be frequent, would have more than counterbalanced the good to be expected. On these accounts it is generally adviseable to substitute the more cautious process of sponging the body of the patient with cold or tepid water and vinegar, as he lies along at his ease. By repeating this at seasonable intervals, we shall produce all the benefit of the cold affusion, and at the same time avoid its dangers.

The administration of cold water as drink, is also a most material improvement, for which we are indebted to modern times; and in the use of it, happily, there is less need for scrupulousness than in the case of its external employment. Its free exhibition was first suggested by the Italian physicians, and Dr. Cyrillus of Naples published a paper in the Philosophical Transactions (No. 410. p. 142.) expressly recommending it without any other remedy whatsoever. In our own country, also, about the beginning of last century, and previous to Dr. Cyrillus's paper, Dr. Hancocke published a treatise on its efficacy, under the affected title of 'Febrifugum Magnum.' Yet it is only within the last twenty or thirty years that cold water, or even cool drinks, have become general remedies. The lower orders do not regard them with the same aversion as cold affusion; indeed, the eagerness with which nature craves them, and the exquisite refreshment they afford, are enough to subdue prejudices even the most inveterate.

The next great and radical advancement in the treatment of fever, of which modern times can justly boast, is blood-letting. This remedy appears, from the writings of Hippocrates, to have been very freely employed in that age. Even in this country, until the middle of last century, it was generally resorted to; and had the sanction of the great Sydenham. His disciples were not silent on the merits of this practice, as is evident from some of the early medical writings of last century.* We know not well how so powerful a remedy should have fallen into disuse; but we believe it was chiefly owing to the influence of those eminent men, Fothergill, Pringle, Lind, Dr. John Hunter, Cullen, and Brown, who gave the tone to medical doctrine, and spread a fear of the lancet all over Europe, by propagating, in their prelections and writings, the false notion that typhus is a disease of direct debility. The practice, after a period of unmerited eclipse, is now happily revived, and has materially lessened the mortality of our ordinary fevers.

* Not many months ago, an enlightened friend showed us a rare little volume on the subject, with a quaint title, published in London, by a Dr. Whyte, A. D. 1712. We were surprised and gratified to observe, that the views as to the efficacy of early depletion, and the arguments used to recommend it, a century ago, are such as the present day might not blush to own.

It is gratifying to think, that this revival has not been brought about by the caprice of fashion, but by an induction from facts. For a good number of years past, blood-letting has been a favourite remedy in the fevers of warm climates: in them it was resorted to, at first, more from necessity than choice, because their violence and rapidity were found to set at defiance the remedies recommended in the schools of medicine. In fact, within the tropics, as the products of the vegetable and animal kingdoms rush through their successive stages of growth, maturity, and decay, with greater luxuriance and rapidity, so also the phenomena of fever are more marked and terrible, and run their course with greater vehemence and celerity: The consequence is, that physicians who treated fever in such countries had, comparatively, the same advantages as those who study nature with the aid of a microscope. They could see more distinctly, and estimate more justly, the secret sources of the dangerous symptoms: these being exposed before them, and magnified, as it were, it was to be expected that the remedies should become more energetic and simple; and in proportion as they became so, they have become more successful. This success abroad has contributed not a little to extend more active depletion to the treatment of our fevers at home: and the practice has been patronised by individuals of superior understanding, who had previously convinced themselves of the unsoundness of the reigning opinions on this disease, and had altered their practice accordingly.

Betwixt the publication of Dr. Hamilton's* excellent work, and the revival of blood letting, purgatives had taken a very conspicuous part—indeed we may say the only active part—in the treatment of fever. Prejudices against this class of medicines had descended from the earliest times, and were deeply rooted in the minds both of physicians and of the vulgar. It was formerly a favourite dogma with the advocates of the humoral pathology, that a peccant matter is the cause of fever, and that purgatives would only obstruct the fermentation, concoction, &c. which they conceived indispensable to the expulsion of this offending cause. Though the doctrine is exploded,

* Dr. Hamilton on the Utility and Administration of Purgative Medicines. Edinburgh, 1803.

the prejudices to which it gave rise are still in very considerable force. It is amazing with what dread people in general look upon all sort of evacuants in this complaint. Purgatives are more particularly the objects of dislike, from their supposed effect of carrying away the nourishment and strength of the patient. Yet it would be very easy to show, that cathartics, instead of debilitating, are really, in fever, the very best tonics in the world; and form the quickest and safest restoratives to health and strength.

Fevers have been judiciously divided into three stages: the 1*st* is one of oppression; the 2*d* of over-excitement; and the 3*d* of exhaustion:—the third is undoubtedly a necessary consequence of the other two, for it is a law throughout animated nature, that excess of action is followed by fatigue or collapse. It is chiefly in the first two stages that energetic measures of depletion, by blood-letting and purgatives, can be considered admissible;—in the last, our sole aim is to support the strength of the vital powers by cordials, taking care, at the same time, not to over-stimulate. Yet, even in this advanced state, some active purgatives are indispensably required every second or third day: though at this time there must be conjoined with them a prudent use of wine and other stimuli. These means are opposite in appearance, but by no means so in principle. In fact, to carry off the offensive fluids, is now, if possible, more necessary than ever. By so doing, the patient is exhilarated and refreshed; and besides, a healthy secretion of bile and of gastric juice is prompted by it. Under such circumstances, a moderate allowance of ripe porter or ale will often have all the good effects of wine: nay, there are many patients with whom they will be found to agree much better.

When we reflect how very grateful a complete change of linen is, even in the fullest health, we can readily imagine what a delicious gratification it must be to the arid and burning skin of a person in fever. Besides, it deserves to be more generally known, that clean linen acts as a spur upon the cutaneous pores, and thus either elicits perspiration, or at least causes a salutary determination of blood to the surface. Indeed, we know of few means so absolutely indispensable as a change of linen daily, or even twice a day; combined with

thorough ventilation, and strict cleanliness of the patient's person and apartment. Without these, the best medical treatment will be nugatory: and the professional attendant, who does not make them the primary objects of his attention, degrades himself from a philanthropic physician, to a mere mixer of drugs. Yet of drugs, properly so called, how very few are really necessary in fever! In the early stages, such as are given should be of an active nature: and towards the close, in general none, save purgatives, are necessary; as recovery will be better promoted by regulating the diet, and tempering it to the diminished powers of the stomach.

As diet is so important a subject, we should perhaps be somewhat more explicit with regard to it. Nature has wisely provided, that throughout the active part of the attack, there should be an absolute loathing of solid food—a pretty convincing proof that it would be hurtful. Nothing, then, should be offered at such times except lemonade, subacid fruits, gruels, milk and water, butter-milk, whey, and the like, so long as any unnatural heat or thirst remain. In the stage of exhaustion, panadas, Indian arrow root, nourishing broths, animal jellies, Madeira mixed with milk, and a draught of brisk ale or soda-water, are highly proper. A spoonful of common yeast given at intervals, will often be serviceable at this period of the complaint. Generally on the head of diet,—it is necessary to be very circumspect, as premature indulgences always retard recovery, and often produce a serious—perhaps fatal—relapse.

It must be interesting to the general inquirer, as well as to the medical scholar, to mark how very different the treatment of fever is at the present day, from what it universally was a few years back. At that time, bark, opium, camphor, wine, brandy, and other stimulants, were used from the very first; now-a-days these have given place, at least amongst the well informed of the medical community, to a series of remedies entirely opposite. Much of this difference of practice is to be attributed to a notable revolution in medical opinion; but some share of it, perhaps, must, in candour to our predecessors, be ascribed to a change in the disease itself. The character of diseases is modified by causes often wholly unknown. That every epidemic has its own peculiar constitution, is an observation as old as

Sydenham; and this accurate physician was wont to remark, that his treatment, during any given season, was never fairly successful, until he had found out the *genius* of the reigning fever. It is probable, then, that, from some unknown cause, epidemic fevers are now more of an inflammatory nature than formerly; but, on the other hand, we think it plain, that, were our modern fevers treated by stimulants, hot regimen, and deficient ventilation, they would become sufficiently malignant; and rapidly put on those appearances of extreme debility and putrescency, which gave our forefathers such a horror at any thing like evacuation. We hold, that, in very many instances, the type of a febrile disease is completely in the hands of the attending physician; and that treatment will often alter it entirely. The mere neglect of ventilation and evacuants, will, even in simple fevers, produce an alarming prostration of the vital powers: this prostration, again, will be more readily removed by strict attention to these particulars, than by the most powerful cordials in the whole materia medica. Dr. Bateman has stated some interesting facts on this point; and we have seen many of a similar nature.

After this explanation, the reason must be pretty apparent why our forefathers had so generally a disease of debility to encounter: the kind of treatment they adopted at first, did indeed, render the exhibition of bark and wine requisite, as a necessary result of their total neglect of depletion. The prostration thus artificially superinduced, was gratuitously ascribed to the type of the disease. Notwithstanding all these errors, it is well known that many recovered: this shows that the stimulating plan had its share of success; though, doubtless, not a few perished for want of those modern measures which are so much more successful. That the same end should be attained by means diametrically opposite, is a paradox in medical science, that should teach physicians to mingle humility with the just pretensions of their art. In order to explain this paradox, apparently one of two suppositions must be true: During the reign of the antiquated practice, either nature was more compassionate than art, and so carried the day against the formidable odds of the disease and the doctor; or else the constitution of fevers is materially changed from what it then was; so

that a malady which can now be safely combated only by blood-letting and purgatives, could then be safely treated by tonics and stimulants. We are much inclined to solve the difficulty, by adopting, *in part*, both of these opinions,—leaning, however, very much to the former.

Upon the whole, it is gratifying to think that improved views of the pathology of fever are now gaining ground so rapidly; and that men of talent are taking a leading part in prosecuting the active treatment. Their authority must, in process of time, operate a change on that herd of *practitioners* who still pursue the beaten track of former years, and hold their camphor-juleps and ether-mixtures in perpetual requisition, immediately after they are summoned to a case of fever. For our own parts, we look upon typhus as to all *practical* intents and purposes, an inflammatory disease; and are satisfied that, in by far the majority of cases ending in death, there has been inflammation, acute, or sub-acute, of some vital organ: Nevertheless, we think it evident, that in the procession of causes to effects, it is the nervous system that first suffers; and that its derangement modifies all the subsequent phenomena, so as to give inflammation a different aspect from what it has in other diseases, purely and primitively inflammatory. Of the precise nature of this disturbance we know just as little as we do about the ultimate nature of attraction, or the intimate essence of life; its effects, however, are a suppression of the energy of intellect and of volition, tremors, general pains, lassitude, coldness, and so forth. All these indicate an unknown change in the centre of the nervous influence, the brain and spinal cord; and, as signs, they appear to be primary and essential,—commotion in the heart and arteries being only symptomatic.

We are further of opinion, that contagion, when inhaled by the lungs, and absorbed by the blood, effects a change upon the constitution of that fluid,—a change very different from its condition in ordinary inflammation;*—that, in short, its mass is poisoned, to speak popularly, by this invisible virus. In this way we can, in some measure, explain the breaking out of livid blotches, and the occurrence of hæmorrhages from the

*Blood drawn in fever, very seldom shows the inflammatory crust, or buffy coat, which it almost constantly does in pure inflammation.

bowels, and other parts of the body, in the last stage of our worst fevers. These, we conceive, proceed from a dissolution of the blood, and from the impaired vitality of the minute vessels; allowing some of it to escape in inky spots under the skin, or in a flux of semiputrescent gore from their unresisting mouths. Such appearances are seldom or never seen in diseases truly inflammatory.—We remark, with pleasure, that our opinions, on this interesting matter, are pretty nearly akin to those of Dr. Armstrong, in his late classical work on typhus.

We now proceed to discuss the measures of prevention:—which depend, of course, very much on what we know or believe as to the nature of the contagion. Now, contagion exists either in the state of an invisible matter, exhaling from the body of the patient; or else adhering to articles of clothes, furniture, or the like. In the latter state, it is known amongst medical men by the appellation of 'fomites;' and every thing concurs to prove, that its virulence is not impaired by this lurking condition; but, on the contrary, is maintained in a state of greater concentration and activity, than even when it first emanates from the patient's body.

We have already remarked, that a specific poison, capable of causing a similar disease in others, is generated in the system of a person under fever. This poison, as soon as the disease is fairly begun, continues unintermittingly to exhale from every pore, until convalescence is nearly completed. Not only the surface of the skin, but also the inner surface of the lungs, mouth, intestines, and bladder, continue to pour out the contagious vapour; consequently the very secretions and excretions are highly impregnated with it. In truth, the patient is surrounded, for two or three feet, by an atmosphere of his own, very deleterious to all persons susceptible of the disease who may happen to be exposed to it. As a matter of precaution, therefore, strict non-intercourse with the sick should be enforced; and those whom duty or inclination leads to visit the patient, should be very careful not to inhale his breath, or expose themselves to that steam of perspirable matter which rises from his body when the bed-clothes are turned down for the purpose of rendering him any offices of help. While engaged in such duties, they should hold in their breath for a

time; and, if under the unavoidable necessity of inhaling the tainted atmosphere, they should, as soon afterwards as possible, blow from the nose, and wash the mouth, with a view of detaching any infectious particles that may be adhering to these passages. All the discharges of the patient should be thrown away as soon as they are rendered, and the vessel washed with boiling water. But the most important precaution of all is, to maintain a perpetual circulation of air in the patient's chamber. For this purpose, a small chink of the window should be left open both at top and bottom,—and the opposite window, where there is one, or else the door of the room, should also be a little opened. When open windows cannot be had recourse to on account of high winds, or other inclemency of the weather, a small fire must be kindled in the grate. Though not considerable enough to raise the temperature of the room above a degree or two, it will have the salutary effect of causing a current, and frequent renewal of the air in the chamber. For the better success of ventilation, the bed curtains should never be drawn close around the patient, but merely one of them let down to screen him from the irritation of the light.

It is very seldom, particularly in the abodes of the poor, that ventilation is sufficiently attended to; this arises partly from their natural carelessness, but more especially from their groundless apprehension of the patient's 'catching cold' from the admission of cool air. We call this a groundless apprehension, because, in a uniformly low temperature, patients are little liable to colds: it is only sudden alternations that give rise to them. Besides, we have observed, that when the body is under fever, it is not so susceptible, as in health, of minor diseases like catarrh. But, even were it otherwise, precautions may easily be taken against an occurrence of this kind, by interposing a screen betwixt the current of air and the patient's body, more particularly when he lies asleep, or when the atmosphere is frosty.

In small, close, and filthy chambers where contagious fever is, the air of the apartment will soon become so surcharged with contagious effluvium, that the majority of those who inhale it, will afterwards take the disease: but if free air be ad-

mitted, the virus becomes so diffused, that the air of the room may be respired without danger:—just as if we dissolve an ounce of arsenic in a bucket of water, we shall form a liquid which few could taste with impunity: but if we throw the same quantity into the Forth or the Thames, the poison becomes so dilute as to be incapable of producing the smallest inconvenience.

We must agree with Dr. Bateman in condemning the custom, so frequently adopted, of sprinkling the sick-chamber with aromatic vinegar, or other perfumes. These most assuredly have not the smallest influence in preventing infection; but, on the contrary, rather tend to vitiate the air. As they disguise offensive smells, we fear they are too often employed as a succedaneum for ventilation; and in this view they are greatly to be reprobated. The criterion of proper purity for a sick chamber is, that it communicate no perceptible smell whatever to a stranger entering it.

With regard to camphor bags, nosegays, smelling bottles, &c. in which many put their trust for safety, when they visit an infected chamber, we are satisfied they can have no good effect whatever, unless in so far as they give confidence to the mind of those who employ them, and prevent the depressing passion of fear,—a passion that predisposes wonderfully to the reception of all contagious diseases.

Another very essential precaution consists in frequently changing the body and bed-linen of the patient, and occasionally sponging his skin with tepid water and vinegar. While this, as we before remarked, is very conducive to the recovery of the sick, it contributes no less to the safety of the attendants. As soon as the linen is thrown off, it should be collected in a tub and covered over with water, into which a handful of lime or caustic potash may be thrown, for the purpose of detaching the animal matters with which it may be impregnated. In one word, then, unremitting regard to ventilation, and the strictest attention to cleanliness in all its parts, constitute the whole secret of evading contagion: and if, along with these means, the attendants and visitors will take care never to approach their heads so nigh the patient as to risk inhaling his breath, the effluvium of his body, or the va-

pour of his evacuations, they need not fear any contagious disease, however malignant may be its type.

As to the sphere of the contagious effluvium, and the distance at which it may affect persons exposed to it,—there is, we think, the most convincing and satisfactory proof, deduced from a long course of experiments and observations, that the exhalations radiate from the body of the patient only to the distance of two or three feet, provided the noxious vapour be not accumulated, and condensed, in the room, for want of ventilation. This sufficiently shows how unfounded are the fears that many express at living in a district of the town where fever is prevalent, or in the neighbourhood of fever hospitals, and infirmaries. If the precautions now recommended are at all attended to, we may live with safety even in the same house where fever exists.

When the mattresses, blankets, linen, clothes, or furniture, are imbued with contagious matter, actual contact with these substances is necessary to produce infection. Yet it is frequently surprising how slight and accidental a contact may be sufficient to produce the effect: and when we reflect how often the disease is propagated by means of infected lodging houses, bedding, clothes, goods, &c. we ought to be on our guard; and on all occasions attend rigidly to purification of suspected articles of apparel or furniture, by fumigating, boiling, scouring, and freely exposing them to the breeze.

It will not be irrelevant to say something in this place, about the degrees of predisposition to the disease in various persons. The liability to be affected by contagion differs greatly in different individuals; some being acted upon by very small doses of the poison, while others resist the strongest. Part of this difference of susceptibility must, perhaps, be attributed to an unknown condition of the nervous system; but, we believe, it chiefly depends on a state of the blood; for, as we before observed, contagion, in most instances, finds its way into the system through the medium of that fluid. Blood is said to be rich when the red part is considerable in proportion to the whole mass; and vice versâ. Those, in whom the process of sanguification is most vigorous, have a great share of red particles in their circulating fluid; their fibre is also strong and

rigid; and their complexion florid. Such persons are observed to be little liable to contagion, compared with persons of an opposite habit. Those—again—in whom the blood is impoverished, are marked by a pale exsanguious complexion, and lax fibre; arising, in all likelihood, from weakness of the sanguific powers. Such persons are observed to be very susceptible of contagion. Habit alone renders the human frame much less easily influenced by this, as well as by any other noxious cause. It is only on this principle that we can explain why physicians and nurses generally escape fevers, though it is obvious they are exposed to them in a degree, greater by a hundred-fold, than any other class of individuals. Yet to this law of habit, as to most others, there are exceptions: for whenever an epidemic is severer than usual, the ordinary attendants by no means invariably escape. On the present occasion, many medical men, and especially hospital nurses, have fallen a sacrifice to their professional duty: the mortality, also, among clergymen and others, in the daily practice of visiting the sick, has been very considerable.

Whether the epidemic is on the increase or decline, forms, at the present moment, a very interesting question. We are sorry to say, from all the evidence that appears, there is reason to apprehend that it has not yet attained its maximum of extension; for there are accounts of its having broken out in some parts of the empire which have hitherto escaped its ravages, —while no where does it show any well-marked tendency to decrease. That it would by and by decline of its own accord, even if let alone, is probable from the history of former epidemics, none of which, we believe, have lasted much beyond three years, and few quite so long: but what extent of mischief might previously be inflicted, is quite beyond the reach of calculation. It is therefore highly necessary that public measures of prevention should be adopted with all speed and vigour.

We would recommend, then, for the general welfare, what has already been so far done in Ireland, Glasgow and Edinburgh, that certain individuals in every town or county should erect themselves into an association for the suppression of fever. Their number should be proportioned to the size or

populousness of the district which their exertions are meant to protect; and, in other respects, they should be men of diligence and intelligence. It is essential to the object of the institution, that the members should consist of those who, from their rank, intellect or influence, have the confidence of the lower orders. We have no doubt that, in every town, a sufficient number of such individuals would be found, public-spirited enough to volunteer their services in this benevolent cause. In fact, it is obviously the self-interest of every one to assist, to the utmost of his power, in extinguishing a disease that, if left to itself, must involve every class of society.

This association should comprise one or more magistrates of the place to which it belongs, so that its suggestions may have more weight, and its operations be aided occasionally by compulsatory civil power. Above all, it should comprehend the Clergy of all denominations; because, from their character and station, they generally have great influence over the poor. It should also comprehend a sufficient number of the faculty, for the purpose of examining the habitations of the disease, ascertaining its extent, and the means of eradication. Such an association, it is evident, should have the power of collecting voluntary subscriptions, or even of imposing assessments to provide funds for executing the object of its establishment. It would be well if government or parliamentary grants, for the latter purpose, were given to such districts as have suffered long and extensively from the epidemic.

These previous matters being duly arranged, every town or county should be parted off by parishes, or other more convenient divisions; and two inspectors, one of whom should be a medical man, appointed to each. It should be the duty of the inspectors to visit and minutely examine the state of health of every family in their division once a week, or oftener, if circumstances require it: and if any cases of fever are found, they must have them removed to a hospital as soon as possible, and afterwards take upon themselves the charge of having the infected dwellings cleaned and fumigated. The poor should be required to lodge, with the president of the association, or with the inspectors of their district, information of any new case, as soon as it appears. Dr. Haygarth, to whom

the world is indebted for many judicious directions for the extinction of contagious diseases, has proposed that persons should be incited by some small pecuniary rewards to give the information in question: but we believe that the mere solicitude of neighbours for their own safety, will be a sufficient inducement to them to make known any infected house in their quarter to the proper authority, as soon as they know that a proper authority is expressly provided for the purpose of remedying the evil.

The association should next proceed to procure tenements to be converted into temporary fever-hospitals. Barracks are, generally speaking, well adapted to the purpose; and at the present time, when so many of them must be unoccupied with troops, their temporary appropriation in this way would be productive of very great benefit. In Edinburgh, the grant of Queensbury barracks has greatly facilitated the disposal of the numerous cases. Prison-depots might also be occupied for a similar purpose: but where neither these nor barracks are to be had, a warehouse, storehouse, granary, or the like, may be made to answer the intention. Architectural requisites are of no consequence, provided the premises be but large, dry, and well ventilated. Indeed their internal fitting up cannot be too simple: we have often been struck by the injudiciousness of multiplying closets and wooden partitions, which only tend to lodge contagious matter, and obstruct the free circulation of air, in large hospitals.

The number of these receiving-houses must be multiplied according to the emergency; but if the measures are promptly pursued, and patients removed during the first days of illness, it will speedily be found that we have choaked up the fountain-head of the disease, and that the necessity for multiplying hospitals is entirely obviated. If, on the other hand, we allow the mischief to get greatly ahead; or if only half measures are pursued, the consequence will be, that a treble expense will be incurred; and even then, in all probability, the object will not be accomplished.

When patients are removed to the hospital, they must be stripped, and well washed with warm water and soap; taking care to cut off their hair, and remove all their ordinary clothes.

These, after being carefully washed and dried, must be put aside in a store-room for the purpose, until the patient goes out of the hospital. During his stay in the establishment, when not confined to bed, he should be accommodated with a hospital-dress, consisting of double flannel or fleecy hosiery.

Although it be a matter of primary importance to have the sick conveyed from their own houses during the first days of fever, as it incalculably lessens the danger of diffusing the disease, still, in the ulterior stages, or even in the last stage, such removal is by no means without use. But on such occasions the inspectors must be prepared to encounter a great deal of obloquy and opposition from the relatives of the patient: for no popular prejudice is more strong than that which holds it dangerous to move a patient under such circumstances. The certainty of 'catching cold,' and many other casualties, will be prophetically announced as the result of such an unheard-of measure. We can, nevertheless, assure our readers, that such a removal, even in the last stage of fevers, may, in general, be effected with perfect safety: nay, free exposure to the air will be often salutary. The only consideration that can make the measure at all questionable is, the debility of the patient—not the risk of exposing him. That debility, for instance, may be so great as to render him unable to bear the erect posture in a sedan chair; but even then, he may be laid on a mattress, or truckle-bed, in the horizontal posture, and in this way carried to the hospital. There is most respectable authority to prove that gestation, as a remedy in fever, has been repeatedly successful in cases, where the extreme prostration of the powers of life, and signs of putrescency, had defied all other means; and would, in all probability, but for this simple, though unusual expedient, have ended in death. We would, therefore, recommend this subject to the serious attention of medical men during the present epidemic. We presume almost every military surgeon that has served in the late campaigns, must have witnessed the safety—not to say utility—of gestation in all stages of typhus fever, and must be able to confirm what we have now brought forward.

We must also allude to another popular prejudice, which tends greatly to counteract or defeat any exertions made to ex-

terminate an epidemic:—we mean the reluctance which many of the poorer classes evince at being sent to public hospitals. In some instances, perhaps, this repugnance arises from a manly feeling of independence, inciting them to decline the aid of charity; but, in by far the greater number, it springs from a very general, though most erroneous impression, that in public hospitals, medical 'experiments are tried' upon the patients. This charge is, of course, too absurd to deserve any serious refutation: and we are certain, from personal knowledge, that the prejudice has no foundation except in the vulgar and suspicious folly of those who entertain it—entertain it, too, against a profession which gives more gratuitous aid to the poor than any other, and which—to say nothing of it as a science—ranks at least as the noblest of the arts. Yet, however unfounded, this prejudice must be combated and argued down, as it stands materially in the way. Indeed the prejudices of the poor, no less than their diseases, will claim much attention, from the association: and here, in particular, the aid of the Clergy may be most beneficially exerted.

On the subject of these hospitals, we have only further to remark, that all visits of relations to patients, unless in cases of approaching death, should be steadily interdicted; as contagion has very often been traced to such imprudent communications. Again,—those who have recovered should not be too speedily sent home among their friends, but should be kept in a separate ward, until all danger of their infecting others is gone by. The establishment of a convalescents' ward will have a further advantage—it will prevent relapses; for most of these troublesome, and other fatal occurrences, owe their existence either to premature indulgences in diet, premature exposure to cold, or else to the patient's being exposed, while still feeble, to a strong contagion from a newly received patient, often injudiciously placed in the next bed to him.

Though the appointment of fever infirmaries is an object of such real consequence, the association will find they have but half accomplished their duty, if they neglect cleansing those hotbeds of contagion, the dirty and infected hovels of the poor. Too much care cannot be bestowed on this great object; because, without it, we may multiply houses of recovery to no

purpose. The inspectors, therefore, as soon as the sick are removed, should cause the house to be carefully swept; every neglected corner must be emptied, and all useless rubbish burnt or buried. Every apartment must then be fumigated with nitric or muriatic acid in a state of vapour. The next step is to wash the floor and furniture with soap and water, and to whitewash the walls with lime. After this, fires must be lighted, and the doors and windows thrown open for a few hours, so as to ensure a thorough perflation of air. Articles of bedding, after being exposed to the acid fumes, should be hung up to the breeze. The fumigation should be performed under the direction of the medical inspector, and repeated if he deem it necessary. With regard to the acid to be employed, we have only to remark, that the muriatic, though weaker than the nitric, has a stronger chemical affinity for animal matter; and as it is at the same time more diffusible, it should in general be preferred. Besides, it is cheaply and easily obtained; the only necessary articles being sulphuric acid and some common kitchen-salt. By pouring the former upon the latter, a sufficient quantity of acid vapour will be speedily disengaged; and we may increase it at pleasure by the application of moderate heat. The oxymuriatic acid gas (chlorine of Sir H. Davy) has also a remarkable power in destroying infectious matter; and is readily obtained by pouring sulphuric acid upon a mixture of pulverized per-oxyd (*black*) of manganese, water, and common salt.

There are other objects that must engage the attention of the association, but into the details of these our limits will not permit us to enter,—such as, the suppression of mendicity; the establishment of general washing-houses for cleansing gratuitously the clothes of the poor, and other minute local regulations; placarding infected houses so as to guard strangers from entering them; directing domiciliary visits to obscure and dirty lodging-houses, and placing them and their inmates under a strict surveillance of the inspectors. The suppression of beggars is a measure of primary importance; for it is certain that this class of persons having been greatly instrumental in spreading the disease both in Ireland and in this country. Often, indeed, the breath which was ex-

pended in benedictions, and thanks to those who bestowed charity, has been found to blast with infection the persons it was meant to bless!—Dr. Stokes's treatise very judiciously points out the evils of mendicity at the present crisis.

Before concluding, we may remark that contagion often lurks for a considerable time in the system before it excites fever. The length of this latent period has been variously estimated. Dr. Haygarth reckons its *maximum* as high as seventy-two days, and Dr. Bancroft extends it to five or six months. The latter appears to us quite an extravagant computation, and has not a single analogy in its favour, save the remote and feeble one of the hydrophobic poison. Nevertheless, there is little doubt that the seeds of fever often remain concealed for several days, and sometimes, though rarely, for two or three weeks, ere they manifest themselves in actual symptoms. The knowledge of such occurrences is valuable, not only as throwing light on the laws of contagion, but as guiding us to extend our means of precaution. These occurrences, also, explain how fever, in many instances, should break forth in isolated situations where no contagion can be traced; because they show that, betwixt his receiving the infection and the appearance of the disease, a person might travel from the most distant parts of the empire. In this manner we can readily imagine the fever to have been first imported into Great Britain from the sister island, and subsequently carried from one place to another; because a series of facts proves, that the epidemic first began in Ireland.

We have thus once more performed an important duty, at the risk of offending many of our polite and fastidious readers:—and endeavoured to make our popularity subservient to the great cause of humanity, in spite of our consciousness that we are exposing it to hazard by the experiment. At the expense, we fear, of some disgust, and certainly of much tediousness, we have now put into the hands of many the means of doing a great deal of substantial good, and of mitigating and abridging a scene of most pitiable suffering. We trust, too, that we have also put it into the heads and the hearts of no few, to avail themselves, in practice and effect, of what has thus been suggested: and, with this view, we have purposely abstained

from all ingenious theories and questionable speculations, and confined ourselves to such safe, simple, and radical directions, as all benevolent individuals of ordinary understanding can at once perfectly comprehend, and correctly apply. The good that may be done, or the misery at least that may be prevented, at such a season as this, by their resolute exertions, we verily believe to be incalculable:—and are persuaded, not only that the present scene of affliction may thus be speedily made to pass away, but that the habits and precautions to which the great body of the poor, and their immediate advisers, may thus be successfully trained, will prevent the recurrence of the same evils, on any future occasion, to nearly the same extent.

Practical Observations on the Causes and Cure of Insanity. By WILLIAM SAUNDERS HALLARAN, M. D. Physician to the Lunatic Asylum of Cork, &c. 1 vol. 8vo. pp. 213. Cork, 1818. (Second Edition enlarged).

[From the Medico-Chirurgical Journal, for April, 1819.]

OVER the link which binds mind to matter, a cloud—an almost impenetrable veil is spread. This cannot be denied, even by those heartless philosophers who look on mind, or, what is termed *soul*, to be merely a *function* of organized matter; which, like that of sight or hearing, ceases to exist, when the organ itself is no longer capable of its office. Certainly the wreck of reason presents a most distressing picture of human nature! The loss of this most invaluable prerogative sinks proud man as far below the level of other animals, in respect to helplessness, as its possession raises him over them, in respect to power and intellectual cultivation. We are among those who believe that insanity is a *corporeal* disease, while at the same time we abjure materialism. We believe that neither this nor any other morbid affliction was ever designed for us by NATURE; but that it, and all other diseases, result from a disobedience of, and aberration from her laws. They are punishments which we, in general, bring on ourselves, or are accidentally inflicted by others—but not, we trust, the dispensations of PROVIDENCE.

The brain, as the material organ through which the soul manifests its existence, may be deranged by a variety of causes, and in a variety of ways, so as to impede, or even totally prevent this intellectual manifestation, without any necessity for the annihilation of mind itself. In sleep, the soul shows itself not; yet it has not deserted its material fabric. In fevers, the *cerebral* functions are deranged, for a time, not the *mental* functions. When the fever is over, and the brain has regained its pristine state, the mental faculties are manifested as before.

On this point, then, we totally disagree with Dr. Hallaran, who argues for *disease* of the mind, while he denies the possibility of its *death*. He considers the *manifestations* as the *essence* of mind for the time being; and hence, says he,

"If the manifestations of the mind be diseased, from any given cause, they naturally must betray an unsound mind, in the ordinary acceptation." p. 19.

To this we can by no means subscribe; but we shall not stop to argue on a point which, after all, can only be conjectural.

We agree with our author, however, that the *causes* of insanity may be practically and usefully divided into mental and corporeal, while "the malady, though differing in its origin, is, in effect the same." The method of treatment, too, we know, must be modified by an attention to this important difference of cause—since *functional* disorder of the brain may often be removed by mere *moral* means, while *organic* derangements must have more *material* remedies.

I. *General and local Causes of Insanity.* Among these, our author justly places WAR, domestic and foreign. The unhappy political feuds and animosities which have so long distracted the sister isle, and, at one time, ripened into open rebellion, engendered, among other evils, a host of visionary views and consequent disappointments, followed by the pangs of suppressed licentiousness and arrogance. Others again, who, though "guiltless of their country's blood," beheld their property wasted, their friends destroyed, and the strongest ties of consanguinity broken, have sunk into hopeless apathy—a prey to wretchedness and despair. To these causes may be, in a great measure

ascribed, the augmentation of the insane lists within the last seventeen years in the asylums of Ireland.

From this dreadful scourge, the higher classes were not exempt. In some, it was the result of terror—ending in melancholia. In others, disappointed ambition was followed by gay, loquacious, and fanciful hallucinations. Both forms were equally incurable.

The abuse in spirituous liquors is another cause of insanity in Ireland, of wide operation, the first and second attacks from which are generally within the reach of medical aid; but if the attacks are repeated, fatuity, epilepsy, or death is the termination.

Religious dread is a well known operative cause of insanity; and it was, ten to one, more prevalent among Protestants than Catholics.

Respecting the *hereditary* nature of insanity, we need not now raise a cloud of verbiage to puzzle common sense. Peculiarity of organization is transmitted from parent to progeny, and so is the disease dependent thereon. This is the plain meaning of the *mysticism* of susceptibility and predisposition, so long cherished by the disciples of John Hunter.

II. *Treatment.* Although it cannot be expected that Mania Furibunda will, in the first instance, admit of a similar mode of cure to that which is the result of the depressing passions, producing melancholia, yet the ultimate treatment of each form of insanity will not be found to differ very widely. The furious maniac is liable to be soothed, and finally benefited by moral means; while the melancholic patient often becomes violent and unmanageable, so as to require the intervention of evacuant medicines. So near, indeed, do the opposite forms of insanity approach each other, that the one is frequently observed to *terminate* with symptoms which are peculiar to the other at the *commencement;* and vice versa. Still the impression of the original exciting cause supports pretty uniformly its genuine character throughout, and will not long bear a deviation from its appropriate specific treatment.

The first impression which the physician makes on the insane patient is of great importance, as it is generally either favourable or unfavourable. The attempt to argue him out of

his hallucinated idea is worse than useless. The less notice, indeed, that is taken, even of his most obstinate phantasies, the less disposed will he be to retain them. On the contrary, it is better to coincide with his wildest extravagancies, unless where the delirium of fever may render strict silence necessary; or where the insane is disposed to commit an injury on himself or others.

In respect to the pathology of insanity, our author is rather undecided; but he observes that—"in *all* instances, whether of the sanguineous or sanguineo-melancholic, he has long entertained the opinion that, in whatever degree the arterial action is exerted, there follows at the same time a torpor of the venous system, effecting a diminution of the equilibrium in the circulation, so essential to the preservation of health."

The observations of Dr. Armstrong, in this country, tend something to the same point. This last physician, whose accuracy of observation is well known, has seen several cases where mania was ushered in by the strongest signs of cerebral *congestion*, while the tone of the heart was extremely oppressed, the face very pale, the pupils dilated, the hepatic secretions disordered, and the skin cool and relaxed. In other instances, again, Dr. Armstrong has observed mania to commence with what is termed excessive determination of blood in the *arteries*, with swollen reddish face, ferretty eyes, full, bounding pulse, and preternatural heat of the surface, but especially of the forehead and hairy scalp. In the congestive variety the patients often complain, a little before the attack, of a load or confusion in the head, with an oppression about the heart, or at the epigastrium; while in the excitive variety, patients often complain of a pulsating pain or fulness in the head, the action of the heart being increased both in force and frequency. The congestive variety often passes into the excitive, as we see in many fevers.

From the pathological opinions of Dr. Hallaran, he has hitherto refrained from venesection, as much as possible—principally, however, from the circumstance of patients being received into public asyla in very advanced stages of the disease. In private practice, where, in some instances, he met with maniacal cases in the primary stages, he opened the temporal artery, which, by diminishing the excessive impetus

of the heart, induced quiescence, and gave immediate relief. *Post mortem* researches did not appear to our author to afford satisfactory proofs of previously existing inflammation of the brain; on the contrary, he asserts, that the brains of those who had died under the direct influence of the insane orgasm, most generally exhibited decided evidence of relaxation, with a peculiar soft, white, flabby aspect of the entire substance, resembling more the appearance of curds than that solid, compact mass, which we observe to be the common consequences of inflammation. The ordinary course of protraction which insanity is observed to run, militates, Dr. H. thinks, against the idea of inflammation of the brain as a cause of insanity. And he adduces a curious instance of a young woman in the asylum over which he presides, where the paroxysms are furious to excess; her countenance exhibiting invariably a most terrific glare, and her uproar being hideous. The pulse, during the paroxysms, continue at about 96, full and hard; the skin hot and red throughout; muscular motion incessant and uncontrollable. To take blood, under these circumstances, is altogether impossible. During the intervals, she appears as completely free from uneasiness, both of body and mind, as the most healthy person. In this case, our author asks, how it comes to pass, that if any thing like inflammation be present in the paroxysms, it should leave no trace behind it in the intervals? We answer, that inflammation and temporary local turgescence are very different things. A man may have apoplexy, the abolition complete of sense, from local engorgement of the cerebral vessels, but without inflammation. We are not, therefore, advocates for the use of *general* bleeding in these cases, unless the general excitement run particularly high; and this leads us to

1. *Local Bleeding.* In a great variety of cases of insanity, especially in young subjects, the sense of heat throughout the scalp; the tinnitus aurium; the idea of loud voices heard from afar; and the coldness of the feet, evince the determination of blood to the head—or rather, congestion in the venous system of that organ. Apoplexy not unfrequently grows out of such appalling circumstances. Here there is no inflammation, yet the application of leeches is of the first consequence. They

should be repeated as long as the superficial heat shall continue. Cupping glasses may be applied over the bites, in order to abstract a sufficient quantity of blood—all this may be done without making any sensible impression on the general circulation, yet with great advantage to the local congestion.

2. *Emetics.* Dr. H. has found that insane patients resist the operation of emetics, requiring triple the dose for people in health. He cautions against the full action of vomiting, "when the danger of over-distention is to be apprehended" in the cerebral vessels. We have long considered this dread of distention in the head, during the operation of emetics, as truly chimerical. We know that there is not a more powerful mean of relieving local internal congestion, whether of the head, lungs, or abdominal viscera, than nausea and vomiting. This last drives the volume of blood to the surface with such force and rapidity, that all turgescences of the interior are instantly resolved. In saying this, we are not advocating the practice of emetics in mania, but stating a fact which may be applicable on many other occasions, and which is not sufficiently known or believed. Dr. H. recommends combinations of purgatives and emetic tartar, so as to excite nausea, and at the same time act on the intestinal canal. It is needless to say that these remedies are more peculiarly applicable to acute insanity. Where, from turbulency, blood cannot be taken, antimony in proper doses, at moderate intervals, seldom fails to reduce the most stubborn maniac to a state of relative quiescence; and sleep very frequently follows, with those happy consequences which succeed to a relaxation from inexpressible misery.

3. *Purgatives.* These are almost always of primary importance during the progress of an insane paroxysm. At the conclusion of fever, and even at the more advanced period of convalescence from mania, purging is invariably indispensable. The biliary secretion is very generally deranged in this disease; and therefore, a combination of calomel, jalap, and antimonial powder, in such proportions as shall secure them a direct passage through the bowels, will be very proper. After purgatives, a degree of reaction occasionally succeeds, marked by obstinate constipation, acute pains darting through the head, and complete sleeplessness. Under these circumstances, anti-

monials, singly or combined with neutral salts, are eminently serviceable. The indication for a continued use of the purgative plan will be drawn from the appearance of the stools. So long as they shall consist of dark matters, accompanied with scybala, and but slightly tinged with bile, the purgatives are to be continued.

4. *The circulating swing* was first proposed by Dr. Darwin, and brought into practice by Dr. Cox. Dr. Hallaran has found it very serviceable in those who were recently attacked, and after they had been sufficiently evacuated by purgative medicines. It was also useful in those inflexible maniacs, on whom no influence could be exerted in the administration of their medicines. Where the object is to produce free evacuations, the swing seldom fails, on increasing its velocity to the degree required, gradually rather than by giving it rapidity at the beginning. In this way the stomach, bowels, and urinary passages, may be acted on in quick succession, particularly by reversing the motion of the swing every six or eight minutes, pausing occasionally, and stopping its circulation as suddenly as possible. The discharges which succeed are often surprising, both by their extraordinary magnitude and fœtor.

The circular swing, however, is not to be used indiscriminately, and not till after other remedies are employed. In what is termed intermitting insanity, Dr. H. has found the swing peculiarly applicable, except where there is much determination to the head.

5. *Digitalis*, according to our author, is not eligible in any case, unless where the system is previously reduced by proper evacuants; and, in fact, its sedative properties can not be usefully exerted, under the pressure of high arterial action. Dr. Hallaran, indeed, comes to similar conclusions with Dr. Sanders of Edinburg, on the subject of digitalis; namely, that its *first* operation is stimulant.

"Its stimulant principle is unquestionably previously exerted; and by this principle does it seem chiefly to impart its benefits. The *sedative* quality of digitalis is secondary; it cannot therefore, with safety, be administered beyond a certain extent, any more than opium—to which, in its ultimate effects, it is greatly similar."

Dr. H. on this principle, prescribes digitalis with the greatest confidence of success.

"Digitalis has shewn its capability of restraining within due bounds, the action of the heart and arteries—so has it, in a remarkable manner, evinced its anodyne and soporific qualities."

Its exhibition must be watched. On the first appearance of pallor, nausea, vertigo, dilated pupils, slow intermitting pulse, with cold extremities, the digitalis should be laid aside, and the volatile alkali, and other cordials administered. It is principally, however, in those cases where carried to a large amount, that the remedy manifests the most decided and the most permanent proofs of superiority.

6. *Opium* appears to be a very doubtful, or rather dangerous remedy in Mania, where there is any degree of arterial excitement; and of late years, it has been seldom used in the Cork Lunatic Asylum, having been superseded by the swing and digitalis. It may still, however, be a question, whether, in the generality of instances, a full and timely dose of opium, by interrupting the quick succession of morbid sensations, might not, in the event of its operation, so fully tend to dissever the catenation as to make way for the gradual return of rational perceptions: but it is a remedy which cannot be persisted in longer than the first effort; especially where the occasional causes are such as induce an over distention of the cerebral vessels, and a febrile diathesis.

7. *Camphor* has been loudly extolled in Mania; but our author has found it uncertain and inefficient.

8. *Blisters* have been too indiscriminately applied, especially to the head. In the more advanced stage of insanity, or rather towards the decline of the paroxysm, where a want of energy, and an incapacity to participate in the usual objects of volition succeed to the previous temper of activity, the occasional repetition of a blister round the lower part of the neck is often found beneficial. Their efficacy may, in certain cases, be more complete, by placing them low down, as on the calves of the legs.

9. *Mercury* is not generally applicable to the cure of insanity, except where the causes have been retrocedent gout; or hepatic derangement.

"Although I cannot (says Dr. H.) decide favourably on the specific properties of mercury in this disease, I am far from limiting them to its purgative quality:—the equable and general stimulus which it affords to the system at large, by an evident action on the absorbents, has taught me to entertain a high opinion of its utility as a preparative for the digitalis."

10. Calomel, as answering a two-fold purpose, of freeing the bowels and acting on the general system, is, of all other preparations, the best. The combination of calomel and tartarized antimony, in the early stages of the complaint, where the influence of antimonials was desired, invariably promoted the evacuant qualities of the latter—in other cases, it may be combined with antimonial powder.

We may here state the sentiments of Dr. Armstrong on this point; sentiments which accord pretty uniformly with the results of our own experience. In the first two weeks of attack, Dr. A. generally bled both from the arm and temporal artery, until the cerebral turgescence was relieved, and the action of the heart restored to a more natural state, evacuating the bowels, at the same time, by calomel, jalap, and salts—the calomel being given in full doses, so as to procure both its constitutional and purgative operation. After that period, he drew blood by leeches or cupping about twice a week, ordering a saline purgative every second morning; and giving calomel daily, in such doses as to insure a moderate but constant ptyalism for some time: two thirds of the *recent cases* of madness recovered within the first three or four months, under this treatment; though hardly any of the patients shewed signs of convalescence until the mouth had been affected for some weeks by the mercury, and until some degree of emaciation took place. When, as is generally the case, we find a difficulty in impregnating the system with mercury, this is an indication that evacuations are required, which always tend to render the system pervious to the influence of mercury. When ptyalism is once induced in mania, it is easily kept up by moderate doses of calomel or blue pill, or by mild mercurial frictions. After sufficient evacuations, he has often combined small doses of opium with the alteratives; and whenever there

was much nervous irritation, this combination always appeared more or less beneficial. *On typhus, p.* 304, *Second Edit.*

11. *Warm and Cold Bath.* In the early stage of mania, and where the necessity for active evacuants still continues, no greater degree of heat than the temperature of the body, at the time being, can be unproductive of mischief.—In fact, the warm bath, at any temperature, is altogether unsafe in the first stage of mania; neither does it seem very admissible in the second or improving stage; in short, where stimuli are improper, the warm bath is inadmissible.

In the third, or convalescent stage of mania, the warm bath, in Dr. Hallaran's opinion, is highly beneficial. The secretory organs are thereby excited into healthful action; especially the liver, as evinced by a critical flow of yellow bile from the intestines; a general forerunner of complete recovery.

We should begin with a temperature of 96°, at the highest; and the continuance in it must be regulated by the immediate state and strength of the patient. To obviate *deliquium animi*, napkins wrung out of cold vinegar and water, and applied entirely round the head, in the form of a turban, and frequently renewed while in the bath, will be serviceable. This is something of the same plan as that of Messrs. Delahoyd and Lucette, which made so much noise a few years ago. Moderate exercise in a dry, open atmosphere, immediately after coming out of the bath, ought, in general, to be enjoined.

12. *Shower Bath.* Here Dr. Hallaran conceives, that the rules laid down by the late Dr. Currie, in respect to cold affusion in fever, will generally apply in mania. We must remember, however, as is well observed by a late excellent writer, that much harm may be done by persevering in the cold shower bath, after the tone of the heart and arteries has been subdued; for it then may increase or occasion fulness in the vessels of the brain, confirm the insanity, or induce an attack of apoplexy, palsy, or epilepsy. Where there are determinations to the head, we have found more permanent advantage from wetted cloths to the scalp, as beforementioned, keeping the head high, in order to retard the tide of arterial blood to the head, and accelerate its return by the veins; a circumstance of

great importance in all severe affections of the cerebrum. In those cases, as Dr. Armstrong observes, which are strictly congestive, the cold affusions cannot be safely employed; but the *warm* shower or slipper bath may be beneficial, in combination with the depletory practice. Where the mercurial course, with the means before enumerated, had failed to remove all the symptoms of insanity, Dr. A. has generally persevered in the use of the warm or cold shower bath, with tolerably active purgatives; and has not often been disappointed, where the disease was not of long standing.

13. *Seclusion from Light.* The stimulus of light on the optic nerves, and through them on the brain, is exceedingly instant in its effects, and injurious in its consequences, in insanity, especially of the acute kind. Maniacs, however, do not commonly complain of the effects of light on their senses; on the contrary, they rather court it. The regulation of light then, in the apartments of the insane, is of the utmost consequence. Total darkness, indeed, is not to be preferred. A moderate and equable degree of light is at all times necessary, so that surrounding objects may be distinctly viewed, without the danger of deception by optical deformities. The light should be received into the room of an insane patient indirectly, or from a northern aspect; it ought also to be admitted from the highest elevation which the room will afford, so as to avoid all intercourse from without, and prevent irritation, even from inanimate objects. Persons far advanced in convalescence have often been thrown suddenly back, from their inability to bear the impulses of light, or the impressions and associations resulting from officious intrusions. It is, therefore, of great importance "that no objects be left in the way of observation, which may revive former associations, either of *a grateful or offensive nature.*" In convalescence from this disease, rural scenery has always been found to have a more tranquillizing effect than the scenes of busy life, whence a quick succession of ideas is forced upon the imagination, and that with serious mischief.

14. *Exercise* forms a material department of regimen in the convalescent state. The extreme degree of muscular debility which invariably succeeds a maniacal paroxysm, often degene-

rates into such a rigidity of fibre, as tends even to a curvature of the spine, and inability to extend the lower extremities. In pursuing this measure, the exercise and business of horticulture seems to merit the most decided preference. Sedentary employments, of all descriptions, are ill calculated to the dignity of the imaginary STATESMAN OR THE MIGHTY POTENTATE! and equally so to the convalescent maniac, whose chief happiness consists in the free exercise of his faculties in the open air.

15. *Diet.* This must, in some measure, be regulated by the previous habits of the patient; but, upon the whole, the farinacea are preferable to the animal dishes. In the Lunatic Asylum at Cork, there are certain seasons of the year, when allowances of animal food is made to the insane patients. The consequences, however, on these occasions, are uniformly the same—a scene of uproar. Animal food therefore tends, generally speaking, to the aggravation of insanity; especially where there is a prevalence of those acute appearances which denote the insane orgasm. In the more advanced period of convalescence, and under the symptoms of debility, owing either to age, or to the protraction of a paroxysm, a gradual indulgence in animal food may be allowed. Wine and fermented liquors are, of course, equally injurious, unless in the most urgent cases. The insatiable cravings for food or drink, which maniacs frequently discover, are never to be considered as demanding the same indulgence as the natural inclination which denotes the tendency to real amendment.

Chronic Insanity.

This is what succeeds the acute form where recovery does not take place. This form composes the great majority of cases confided to the care of the private practitioner. Its treatment bears, in the generality of instances, a strong reference to that pursued in the primary state—varying very little more than in degree, and requiring to be regulated in strict conformity with the force and continuance of the paroxysms.

We are disposed to agree with Dr. Armstrong in dividing this form into two varieties—the one arising from a strictly *congestive* state of the brain, the other connected with arterial excitement. The congestive form is preceded by paleness of

the face and skin; watchfulness and restlessness; uneasiness in the head; occasional load at the heart; and derangement of the hepatic function. The pulse is almost always weak or oppressed during the day, the surface being damp with cold perspiration. A slight febricula and imperfect reaction take place towards evening. The other form connected with arterial excitement is generally preceded by disturbed sleep; head-ache; quickness and firmness in the pulse; white tongue, and increase of heat at nights. In this, as in the other form of chronic mania the liver is very apt to be diseased, either primarily or secondarily.

Where chronic insanity has decidedly assumed the periodical type—the recovery may be greatly promoted by the cautious introduction of the liq. arseniatis potassæ.

Seclusion and Separation from Friends. Universal experience has decided on the propriety of early removal and non-intercourse of the insane with their intimate friends and relatives. Yet it is to be lamented, however amiable the failing, that when this afflictive misfortune comes home to our own doors, our sentiments and opinions are re-modified, and reason is blinded by sympathy! The tenderest emotions of friendship and affection become strongly engaged. Doubts arise, and objections are urged by those whose bounden duty it is to weigh well the nature of the sacrifice to which they are called upon to submit. They ought to bear in mind, that the assiduities and attention of relatives are never received by the insane as proofs of friendship or kindness; and, that their ultimate effect is rather to irritate than soothe. With the insane, the dearest objects of affection become exposed to the most invincible hatred. If that degree of restraint and privation, which is necessary for the welfare of the insane, be imposed while intercourse with relations exists, then will a constant source of irritation be generated, since the patient will be thoroughly convinced that this coercion and this privation is with the consent at least, if not by the express desire of the said relatives. Hence they are incensed at such cruel conduct, and have often been known to retain a lasting hatred against their nearest kindred, even when they had recovered from the hallucination; for it must not be supposed that the insane are ever unmindful of what passes around them.

The interference of domestics, in the periods of violence, is sure to create an additional source of irritation. Any assumption of authority on their part, conveys the idea of an inverted order of things, to which a feeling of resentment never fails to succeed. Servants too, when incautiously confided in, will frequently, from selfish policy, defeat the views of the physician, by yielding to all the dangerous propensities of the patient, or by insidiously condemning the means adopted for his relief. Their inexperience and irresolution, even with the best intentions, set order at defiance, and the apartment of the sick, through want of method, becomes repeatedly the scene of tumult and confusion. In short, half measures, in the treatment of the insane, with the appearance of decision, are even worse than total inactivity: consistency throughout is indispensable. Seclusion from friends, from home, and from domestics is absolutely necessary.

Dr. Hallaran's work, though somewhat too *popular* in its construction, is certainly respectable; and indicates a mind fraught with practical knowledge, and strongly embued with the feelings and the principles of humanity.

ORIGINAL PAPERS.

FOR THE ECLECTIC REPERTORY.

On the Cure of Chronic Rheumatism.

BY JOHN C. OTTO, M. D.

Philadelphia, March 1st, 1819.

My Dear Sir,

I must inform you, in reply to your note, that I have been much more frequently disappointed, this season, in curing chronic rheumatism in the Pennsylvania Hospital, by the mercurial treatment of that disease, than has ever happened to me before, since I adopted this practice. This failure, I am enabled from great experience, to ascribe to my method not being carried to the same extent in activity and duration, as has been my custom heretofore. This change has arisen, in part, from the cases, generally speaking, being rather less painful and of shorter duration than in former years; but more especially, from a wish to ascertain, whether this disagreeable remedy might not prove effectual, without the patient suffering so much or so long, as my former practice required. The result of the trial this season, has completely convinced me, that if chronic rheumatism has existed several months, mercury will generally fail to cure it, unless a salivation to a considerable extent is continued three or four weeks. When of shorter duration, the disease will often return upon the cessation of the mercurial action. The practice of the Hospital last winter, is no fair evidence of the virtues of the remedy, and my tour of duty is at a season the most unfavourable to the removal of this disease. The result of my experience is, that every form of chronic rheumatism, in almost every instance is removed, during the ptyalism, if it is carried to a considerable extent; that the exceptions are very few indeed, where there is not permanent relief obtained; and that in a vast majority of cases a complete cure is effected, if the salivation has

been continued actively three or four weeks. Nor have I ever had reason to regret, in a single instance, its having been employed. This disease is very apt to recur on an exposure to the usual exciting causes; hence persons, who have had a very severe and tedious attack of it, should be careful for several years, to avoid being exposed to cold, damp, or tempestuous weather. Some gentlemen, to whom I have related my experience, have supposed as my patients have generally been sailors, that the cases have been venereal. This opinion however, is without foundation. Seamen, from their proverbial carelessness, the necessary exposure incident to their profession, their want of sufficient warm cloathing, their passing rapidly from a warm to a cold climate, and the variable nature of ours, are more liable to rheumatism than any other class of the community: from these combined causes, and from their being often long indisposed, before they reach the shore, they often have it in the most aggravated form. Cures of similar cases, by the same remedy, are made in persons who have never had the venereal disease. There is this remarkable difference in the progress of recovery from pains in these two affections, and it is sufficient to designate their nature; in the venereal, the pains recede in proportion to the continuance of the salivation, in rheumatism, they almost suddenly cease as soon as the mercury has complete possession of the system. It must be observed, that in the medical department of the Pennsylvania Hospital, we often have the worst cases of the latter disease; the patients with it being generally those who are the most liable to have it in its most aggravated state, or those who come to the institution as a last resort, having failed to procure relief elsewhere. Persons who have been crippled a year or two, and been entirely disabled from work, have been often restored by this remedy to their former usefulness. It is, however, not infallible. I have fairly tried guaiacum in powder, and the volatile tincture, Dover's powder, decoction of the woods, sulphur, oil of turpentine, blisters, tincture of poke berries and other remedies, sometimes singly, and at others variously combined, and found each of them occasionally to cure; but I think mercury, when carried to the proper extent, more efficacious than all

these medicines together, in very violent and protracted cases of chronic rheumatism. My much esteemed friend and colleague Dr. Park, concurs with me in this opinion. Although I generally rely solely on it, in Hospital practice, yet when it is thought prudent not to salivate much, from the particular state of the constitution, I prescribe in addition, the compound decoction of Sarsaparilla, and blisters to the parts affected. When I employ the other remedies above mentioned, for I do not use mercury in the mild cases, I am much in the practice of assisting their operation by the application of an epispastic to the pained part; and so beneficial does it prove, that it often happens as I pass through the wards of the Hospital, if blisters have not been directed, that some rheumatic patient requests to have one applied. My general mode of producing salivation in chronic rheumatism, is to give a grain and an half of calomel with half a grain of opium, made into a pill, morning and night; most commonly, in about a week the mouth begins to be affected, and the medicine is still continued, until I think a sufficient effect will be produced. If the ptyalism is disposed to lessen too rapidly, I again recur to the mercury; when it has been omitted prematurely, there is sometimes more difficulty in reproducing a salivation than there was in causing it in the first instance. We must be careful not to carry it to excess. In a few cases, it has gradually ceased, although my patients have assured me they have continued to take the same quantity that made their mouths sore. Where the stomach and bowels are irritable, I have substituted the blue pill, or used the mercurial ointment. Whenever the weather is cold, it is indispensably necessary that the sick be completely enveloped in flannel, and remain in a warm room.

Very respectfully yours,

JOHN C. OTTO.

Mr. J. D. Spragins.

Cases of Blighted Fœtuses discharged from the Uterus at various ages, living children still remaining to the full period of Utero-Gestation.

BY JAMES MEASE M. D.

Mrs. H. miscarried at the fourth month. Two months after, her abdomen and feet began to swell. An experienced accoucheur pronounced the swelling to be dropsical, and she took medicines for that supposed affection. The epidemic fever of 1797, in Philadelphia, drove her and the family from the city, to Dr. Wm. Gardner's neighbourhood, and he was engaged to attend her. In due time, that is, nine months from her first reckoning, she was delivered of a child; and in attempting to deliver the placenta, he found it obstructed at the os externum. On examining into the cause, he found a second funis adhering to the placenta, and attached to the fundus uteri. He was obliged to destroy the communication, and he then brought all away.

The foregoing facts were related to me by Dr. Gardner of Darby, and noted at the time. They were brought to my recollection, by lately reading in the ninth volume of the London Medico-Chirurgical Transactions, p. 195, a case, related by Mr. John Chapman of Windsor, of the expulsion of a blighted fœtus and placenta at seven months; a living child still remaining to the full period. The particulars of this case it may be satisfactory to state. On the 9th of October 1813, after a considerable flooding, a perfectly healthy placenta was discharged, the size they usually are between five and six months; to which were attached the membranes also quite perfect, but of a dirty yellow colour, flattened, and closely embracing a small fœtus not larger than they are generally seen between three and four months, without any liquor amnii, although it did not appear that any could have escaped. The pains ceased, and the woman continued progressively to recover strength until the 10th of December following, when she was delivered of a very fine full grown girl, with the placenta, and "had a very good getting up."

Mr. Chapman remarks the singularity of this case, that the "os uteri should have been dilated to the size it must have been, accompanied with the necessary expulsive pains to force this placenta and fœtus through it, and yet the pains again subside without going on to empty the uterus; and not only going off entirely, but that gestation should continue to go on equally well, as if the uterus had not suffered any disturbance."

Upon turning to a case somewhat analogous to that related by Mr. Chapman, and referred to by him,* I find that "a blighted embryo between the third and fourth month of pregnancy, came away two days after a living child," and the writer, Dr. John Clarke, says, that he "has in his collection a blighted fœtus, where the circumstances of the two children were the same, but this had advanced as far as the fifth month, and admitted of being preserved in spirits. The first did not, being very offensive, and the flesh almost reduced to a pulp." He further remarks, "cases of this nature have often given occasion to the opinion of the possibility of superfœtation, from two fœtuses of very different sizes having been expelled from the uterus at the same time. In such cases, however, the smaller is never found to be living. Hence it amounts almost to demonstration, that the two were formed at one impregnation; but from some disease of one of them, or from some derangement of its placenta, it had died at an early period of pregnancy, and had remained in the uterus during the period of utero-gestation, until the other living child was expelled."

In the Transactions of the Royal Society of London, for 1818, Dr. Granville refers to a case related in "one of the volumes of the College of Physicians, London, entitled "a case of superfœtation," which merely goes to prove the occasional co-existence of separate ova in utero. A lady was delivered of a male child in November, 1807, and again in February, 1808, that is three months afterwards, of another male infant completely formed. The former died without any apparent cause, when nine days old; the other lived longer." Dr. Granville properly asks the question, "can we consider this otherwise than as a common case of twins, in which one of the

* London Medical and Physical Journal, Vol. XVI. p. 53.

fœtuses came into the world at the sixth, and the other at the ninth month of pregnancy, owing to the ova being quite distinct and separate? Had this not been the case, the circumstances which brought on the premature contraction of the womb, so as to expel part of its contents in November, as in the simplest cases of premature labour, would have caused the expulsion of the whole, or in other words of both ova in that month, and we should not have heard of the second accouchment in the following February; which led the author of the paper in question, to bring the case forward as one of superfœtation. Had it been proved that the child of which the lady was delivered, had reached its full term of utero-gestation in November, and that she had brought forth another child one, two, or three months afterwards of equally full growth; then a case something like superfœtation would have really occurred."

Dr. Granville adds, "I have now under my eyes a recent preparation, where the complete ovum is seen, such as it was when expelled at the seventh month of pregnancy, the lady being safely delivered of another child alive, two months afterwards. Although the first fœtus was expelled at the seventh month, it was evidently of a growth of a shorter period, and had remained in the uterus dead for three months."

As it is extremely satisfactory to physicians, to be acquainted with the fact of the previous occurrence of cases similar to those they meet with in practice, and as others, of the same nature with those related above, will doubtless again occur, I am induced to send you this communication for the Repertory.

I am very respectfully yours,

JAMES MEASE.

Dr. T. C. James.

September, 1819.

Account of the Inflamatory Bilious or Yellow Fever at Angostura, and in the River of Oronoco, with the particulars of the Illness and Death of Commodore Oliver H. Perry.

BY MORDECAI MORGAN, M. D.

United States' Schooner Nonsuch; Port of Spain, Island of Trinidad, August 25th, 1819.

Lieutenant Commandant Claxton.

SIR,

IT has become my painful duty to give you an account of the disease which prevailed so severely on board this schooner, while at Angostura, and in the river Oronoco; and a detail of the symptoms and treatment of the fever, which unfortunately terminated in the last illness of our late distinguished countryman, Commodore O. H. Perry.

On Thursday, the fifteenth of July, 1819, we discovered the mouth of the river, took a pilot on board, and proceeding, we arrived at Angostura on the twenty-seventh, all well.

Not a case of acute disease occurred while we were ascending the river, although the heat of the weather was very great, the showers frequent, and the range of the thermometer from 78 to 90 degrees. The town of Angostura is on a high situation, on the banks of the river, about 280 miles from the ocean. At the town the course of the river is nearly from west to east, which appears to be its general course. The trade winds blow over the province of Guyana; and after a very hot day, cool breezes usually spring up towards evening. I found the thermometer from 80 to 96 degrees. Upon anchoring at the town, the police of the vessel was so regulated as to expose the men as little as possible to the sun: fresh and salt provisions were given them alternately, so as to avoid the evil effects which might result from a sudden change; and vegetables as far as they could be procured. The season at which we arrived was the most unfavourable, it being, as in the West Indies, the most sickly; and a European, or North American cannot remain there long, whatever precautions he may adopt, without great hazard of an attack of inflammatory bilious fever. The fever was common, not only among the European emigrants at Angostura, but many of the natives also were taken with it.

As it prevailed among the English people, it was usually fatal on the fourth or fifth day. Black vomit appeared in many of the cases. On the first of August, a case of fever appeared on board of a very unusual character: and the violence of the symptoms too plainly indicated the danger of the issue. The man was seized with severe pain in his head, immediately above his eyes, and in his back. The heat of his skin was very great, and especially that of the head; his eyes became red, his tongue was smooth and moist, and covered with a light yellowish furr. His pulse was frequent, full, and strong; and his restlessness became so great that he would lie but a few minutes in the same posture. His pain was so severe, that he uttered continued and loud complaints. In this condition it was evident that no time was to be lost; and that the life of the man must depend on the promptitude with which proper remedies could be employed. From having seen several of the sick Europeans on shore, I had thought that blood-letting was indicated as very applicable to their condition; but, as it was a remedy little employed in the country by any body, I was resolved to adopt it with due caution. Accordingly, I commenced with evacuating the stomach and bowels with one ounce of sulphate of soda, and one grain of emetic tartar. Although the operation of this was very satisfactory, the disease had not sufficiently abated, to indicate that the evacuation had been adequate to the violence of the symptoms. The pulse being strong, full, and frequent, and the pain of the head and back but little diminished, I resolved upon bleeding him. A vein was opened, and, after the loss of a few ounces of blood, being asked if his pain was better, he said it was; and continued to say he felt easier while the blood was running. His pulse not falling, about twenty ounces were taken, when it became slower and softer: he confessed himself now quite relieved from the pain in his head and back; and his head and hands having been sponged frequently with cold water and vinegar, he began to obtain some rest. He was again purged with calomel and jalap, each ten grains; and in forty-eight hours from his attack, he was out of danger. The preternatural heat of the skin had gone off, perspiration was renewed, and the pulse was slow and regular: for two or three days it was with

great difficulty the stomach would retain the smallest portion of any thing; but it gradually recovered its tone, under the use of nourishing and stimulating drinks; and the patient, in five or six days, was able to walk about. In this case is a brief outline of the more prominent symptoms of the disease, and of the treatment I felt constrained to pursue. The practice was afterwards varied, depleting more or less, as the state of each constitution seemed to require; and according to the violence of the attack. In almost every case of the officers and men, I was compelled, before any permanent control was effected over the disease, to take blood twice; fifteen or twenty ounces each time; to give three strong cathartics, and sponge the head, breast, neck, and hands every fifteen or twenty minutes with cold water and vinegar; from this great relief was obtained. Having early consulted Dr. Forsyth, an American gentleman, who has been educated as a physician in the United States, and whose correctness of judgment, and extensive observation on tropical diseases, gave me much assistance; and finding he approved of my plan of treatment, my anxiety became much less, and my confidence increased; but just at this time, I was myself seized with the fever. For five or six days Dr. Forsyth attended all the sick on board, and placed me under obligations to him for his kind and punctual attention, which cannot be forgotten.

To Dr. Forsyth I am indebted for an account of the first two days of the illness of commodore Perry, as I was unable to walk into the cabin to him. Having suggested to the commodore the indispensable necessity of immediately putting out to sea, to preserve the rest of the officers and men from the fever, as no safety seemed to arise from the adoption of every precaution; he immediately arranged his business with the government of Venezuela, and preparations were made to leave the place.

On Saturday, the fourteenth of August, a splendid entertainment was given to the commodore, by the government; to which his officers were invited. The guests were numerous; and, although conducted very temperately, all felt exhilarated with a few glasses of wine. At ten o'clock in the evening the company separated: the commodore went to Dr. Forsyth's,

at whose house he had spent his time, while at Angostura, with great comfort and cheerfulness; he retired to bed in fine health and spirits, and rested well all night. During the whole time he was in the place, he was particularly attentive to observe every thing that could contribute to preserve his health; and living with Dr. Forsyth, with whom he often conversed on those subjects, he said he had not felt at all indisposed since he had been in Angostura. On Sunday morning he arose well, but said he felt a little heaviness in the head. He observed to his friend, Dr. Forsyth, that he believed he would eat an orange, asking his opinion as to the propriety of it. The Doctor advised him to suck the juice of the orange, which he did. He felt very well during the morning, had several evacuations, which were attributed to the orange juice. Consulting Dr. Forsyth as to the propriety of keeping up the evacuation, to which the Doctor advised him, he sent me the following note.

Sunday morning.

SIR,

I wish you to send me this afternoon a small cathartic. Although not indisposed, I am not quite as regular as usual, and propose to take it merely as a precaution: probably a calomel pill may answer; at all events, let it be very simple; because I do not wish to be exhausted in my strength, in the slightest degree; and purgatives generally have that effect on me, unless they are very mild.

Respectfully, &c.

DR. MORGAN. O. H. PERRY.

I sent him some cathartic pills, and advised him to take two of them at going to bed, or early in the morning. Every preparation having been made, on Sunday afternoon, at six o'clock, P. M. we left Angostura; and a fair wind, with the strong current, carried us down the river very expeditiously. On *Monday morning*, the sixteenth, he confessed he felt pretty well; but took two cathartic pills, and was much pleased with their effects. We descended the river rapidly, and he was employed in attending to his usual business. On the morning

of Tuesday, the seventeenth instant, the commodore arose and observed he had not felt as well during the time he had been up the river. He breakfasted as usual, and having finished the business of the morning, ordered his gig to be manned, and went off toward the side of the river to shoot some birds. While he was absent, frequent light showers fell, followed by a very hot sun-shine. Something of a heavy squall making its appearance, Dr. Forsyth advised him to return to the schooner immediately, warning him of the danger of getting wet, as he had been a little indisposed. He was able to reach the schooner before the rain, and all was well. We arrived at the mouth of the river in the evening; and, finding the wind fresh a-head, anchored on the bar. During the night the swell became pretty considerable; and the schooner shipped a sea over the stern, which falling into the cabin where he was asleep in his birth, wet the commodore without awakening him. About four o'clock on the morning of Wednesday, the eighteenth, he awoke with a violent chill; and called on Dr. Forsyth, who had taken a passage in the schooner to the United States, and who slept within a few feet of him, told him of what had happened, and of his chill. The Doctor advised him to cover himself up warm, and have a warm ptisan, which he did. His chill went off, and left him with a general numbness and soreness of his muscles, with much pain in his head and back, and a weight over the region of the stomach. During the morning he took some drinks, such as gruel and tea, kept himself at rest, but his pains and the heat of his skin increased. His pulse being much excited, resisting pressure from the fingers pretty well, and the pain in the head very severe, Dr. Forsyth advised him to lose a little blood; to which he consented. The Doctor kept his fingers on the pulse of the opposite wrist, as was our custom, and when about ten ounces had flowed, the pulse sunk, and becoming very weak, he was obliged to tie up his arm. The bleeding, though it gave him relief for a short time, left him much debilitated; and we perceived we had a different constitution and disease to manage, from those cases of young officers and sailors that we had so successfully treated before. His pulse made no effort toward recovering its former excitement: it became weak, soft, and about eighty-five; and after

a few hours, he was as bad as before. Having been so freely evacuated the three or four days preceding, and being himself afraid of too much exhaustion, a cathartic was not again exhibited till about four o'clock. Having become very partial to the pills I made him, he wished to take some of them; two were given; they operated well; various drinks were given him, and changed according to his taste; gruel, toast and water, barley water, a little wine, or porter and water, orange ptisan, pine-apple ptisan, and as we had a milch cow on board, he had wine whey; we also gave a little chicken water. Very little abatement of the symptoms were apparent. He complained much of the stricture over the epigastrium. His respiration became laboured and irregular; his inspirations were sometimes long, and then short, accompanied with a trembling and impaired action of the diaphragm. In the course of the night injections were used, and his usual supporting drinks given occasionally.

Thursday morning, the nineteenth, he had little pain. His pulse was frequent and soft; and although the motion of the artery was considerable, it was distracted; quivering, and distinct pulsations were scarcely perceptible. We continued to give him such drinks as were best for supporting his strength. His skin having become cool and moist, we had great hopes that the nourishment and drinks he was taking, would support and increase the powers of life. But in this we were disappointed; nothing seemed to alter his sensations, or change the state of the symptoms.

Toward evening he became still worse; the skin again became hot and dry, his head was much heated, the oppression at the stomach greater; and not having had an evacuation for the last twelve hours, we gave him a mercurial cathartic, in divided doses, which brought away a large quantity of feculent matter. His increased debility again indicated the suspension of evacuating remedies; large sinapisms were employed, and an attempt was again made to give support to the system, by porter and water, wine and water, &c. &c.

Friday, the twentieth. We to day have used no depleting means, but have endeavoured to compose his stomach, and give him support: towards evening he appeared much better;

was able to change his position, he rested well, his pulse became slow as natural, and regular; and, although some of the bad symptoms never left him, such as irregular respiration, deep sighing, and oppression over the epigastrium, yet, to the common observer, he appeared in no danger; and he himself was flattered with a speedy convalescence.

Saturday the 21st. This morning his debility is much increased, the heat of his head and of the skin almost as great as at any period: for this, his head and hands had been sponged with cold water and vinegar every half hour, and it always revived him and gave relief. His stomach had by this time become so extremely irritable, as to retain nothing; but in the afternoon he was better, had his drinks as usual, but passed a restless night.

Sunday, 22d. He was very restless, and all things appeared unpromising; we thought it time to again evacuate the bowels, and gave calomel grs. xiij, followed by an injection. The injection brought away some bilious matter, but the cal. had no effect. About this time he was taken with spasmodic motions of the stomach and diaphragm, and a deep hiccup which distressed him every five, ten or fifteen minutes. The symptom seemed to alarm him a little, but he seldom expressed his apprehension; and when requested not to feel discouraged, he said he did not feel discouraged, that the great debt of mortality must be paid, and whatever might be the termination, he was ready to meet it. Nothing given but drinks to support the system. About twelve o'clock, the spasms of the stomach and the hiccup increased in violence. His inspirations were made with trembling and difficulty, and his thorax in breathing was imperfectly expanded. His pulse was slow and feeble, his skin and perspiration cold, and a space of about an inch wide around his forehead, about his eye brows, was as cold as dead matter. We continued our efforts to give support to the sinking powers of his body.

Monday morning. All appearances unfavourable, the restlessness not to be overcome. Gave him an injection, which came away in half an hour, and a small quantity of natural fæces came with it. The vomiting comes on every five minutes, the discharges appear a little darker, pulse slow,

feeble and irregular; skin moist and rather cold, restlessness and hiccup distressing; delirium occasionally; he complains of a burning and acute pain in the stomach, but has long intervals of ease between the paroxysms.

He now became apprehensive of the danger of his situation, and said he must go off in one of the paroxysms, if they continued much longer. He told us not to conceal from him his danger, that he would not allow it to accelerate his death. After a few minutes he was taken with a vomiting, and ejected from his stomach about a pint of dark-coloured fluid, not exactly resembling black vomit, but more like thick black dirty vinegar. He expressed much surprise to see it come from his stomach; and enquired where it came from. I then prepared some laudanum, æther, carbonate of ammonia and water, and gave him a tea spoonful every ten minutes; it relieved his vomiting and hiccup, and for about an hour he remained tranquil and easy. He requested me to call captain Claxton and Mr. Salter into the cabin, and with the most perfect composure of mind, he called on us to witness the arrangement of his affairs which in a few words he made. He said he had wished to do it for some hours, and felt himself much relieved in mind.

At twelve o'clock, we had beat up within a few miles of Port of Spain, Trinidad, where the ship John Adams awaited us, and a boat came off from the ship to meet us; upon informing him of this, he seemed much rejoiced; as his desire to get on board the ship was very strong, we had some hope left that we might get him in the spacious airy cabin of the ship. Mr. Turner, first lieutenant, Dr. Osborne, the surgeon of the ship, and Mr. Handy the purser, came on board us, and although his sensibilities were a good deal excited on meeting his friends, he kept himself perfectly calm and firm; and although his sufferings had by this time became acute, hope seemed for awhile to beam a little on his face. Dr. Osborne, Dr. Forsyth and myself upon ascertaining and deliberating on the symptoms, resolved to give calomel and camphor in divided doses, and endeavour still further to support the sinking powers of nature. In about an hour his strength was entirely sunk, a yellowness of the skin on the neck, breast and face

began to appear, his extremities became cold, and his skin clammy; he was no longer sensible of pain, his respiration became irregular and imperfect, and at half past three o'clock, he expired without a struggle.

Remarks.

I must be permitted to say, and Dr. Forsyth entirely agrees with me on the subject, that the case of Commodore Perry, was from the first, a case of yellow fever, which could not terminate otherwise than fatally. To any medical man who might have witnessed his illness, it must have been sufficiently obvious, that his constitution was most illy adapted to resist a disease dangerous under all circumstances. We are now unable to discover a different plan of treatment, which, applied to his condition, would have been attended with the least probability of success. Had evacuations been carried farther, death must have resulted sooner from excessive debility. Had they been less or suspended sooner, black vomit would have come on, in all probability, on the third or fourth day. His constitution from the very first seemed to sink under the disease, and at no time did the powers of life appear to obtain the least resuscitation. Among the unfavourable circumstances felt in the management of his case, the following may be mentioned: The want of a capacious and well ventilated apartment;—the extreme heat of the weather;—a prepossession which he had imbibed of the very dangerous and contagious nature of the disease, from the number of English officers who died on shore at Angostura;—an impatience to get on board his own ship, which was kept up by the impossibility of beating up to Port of Spain under four or five days; and we were unable to place him on deck, owing to frequent showers of rain.

The schooner being so small, he was often disturbed when in a comfortable posture and thrown into one disagreeable to him. But there were others which were favourable to assist in affecting his recovery. His medical attendants were anxious and vigilant. Dr. Forsyth or myself, or both of us, were always at his side. We watched the effect of remedies, and were ready to employ them as the change of symptoms might re-

quire. We managed to keep the cabin pretty cool, and tolerably well ventilated; and when it is recollected, that of between twenty and thirty cases of officers and men who were attacked only six deaths occurred, it must be allowed that the treatment of so violent and dangerous a disease was eminently successful.

Your obedient servant,

M. MORGAN.

FOR THE ECLECTIC REPERTORY.

Description of a new Machine-Bed, for the sick and persons with fractures of the lower extremities.

BY BENJAMIN H. COATES, M. D.

The utility of contrivances for assisting patients with fractures, in removing their discharges, is now, I believe, pretty generally acknowledged. I have to describe one whose principal merit is its simplicity.

Earle's contrivance, by which the patient was raised up, while a pan was placed under him, is so troublesome and complicated, that it has never been much used in the Pennsylvania hospital. An useful substitute has been made by Dr. John Rhea Barton, which has been employed with advantage for several years in the hospital; and a description of it was published in the fifth volume of the Eclectic Repertory.

Three years ago, and about a year after this was invented, I made a working model of a bed on the principle I have now adopted; and it was shewn to Dr. Hartshorne and to the late Dr. Dorsey; but as the hospital was well provided with the others, no new ones were made, and it was resolved to wait until they were required for actual use. In the winter of 1817, and 1818, I shewed a working model to Dr. Physic; which he exhibited at his lectures. It was not put in practice till the last autumn and winter, when some of the bedsteads were made for the hospital, and they have been in constant use ever since.

The apparatus consists of a perforated bed, with a cushion filling the vacancy, made to fall with a hinge, by drawing up a slider, and to be pushed up again into its place, and supported there by a solid board, when the slider is thrust down. By the same motion, a tin bed-pan is moved under the whole or withdrawn to the foot of the bed.

For this purpose the bed is provided with a board bottom, instead of one of sacking. Two holes are required in the slider. One of them, at the lower end, is merely to receive the pan in cleets, passed so as to permit its removal in a direction parallel to the bed side. The other is for the descent of the cushion and circular piece of board to which it is attached, and for the place of operation of the bent piece which forces it up. The remainder of the upper part is flat, to be pushed under the cushion and circular board, and to support them while at rest.

The handle is a flat piece of iron, between three and four feet long, with one end turned up to afford an hold to the hand, and the other forming a regular curve downwards, to tilt up the cushion and board, and then act on them as a wedge.

The cushion is conical, particularly in the direction in which it rises and falls, and both this and the circular board smaller than the aperture in the slider through which it moves, to avoid entanglement in their motions through it. In bedsteads of convenient width for hospitals, the whole is placed obliquely. The handle passes upwards within reach of the right arm of the patient, and the pan is protruded to the side and foot of the bed, in a situation convenient for removal; at the same time the smell is kept at a distance from the patient's head.

In the annexed plate, fig. 1. is a perspective view of the whole apparatus as in actual use; in which may be seen the bedstead, part of the mattress, the slider with its two holes, the flat iron rod, the pan and the cleets or strips of wood in which the moveable parts slide. The end of the rod is seen at the bedside in a situation for the right hand of the patient; and the pan is seen at the opposite side near the foot of the bed. The cushion is here forced up, and the wide part of the slider sustains it.

Fig. 2. Is a view of the slider and iron part AB.

The apparatus consists of a perforated bed, with a cushion filling the vacancy, made to fall with a hinge, by drawing up a slider, and to be pushed up again into its place, and supported there by a solid board, when the slider is thrust down. By the same motion, a tin bed-pan is moved under the whole or withdrawn to the foot of the bed.

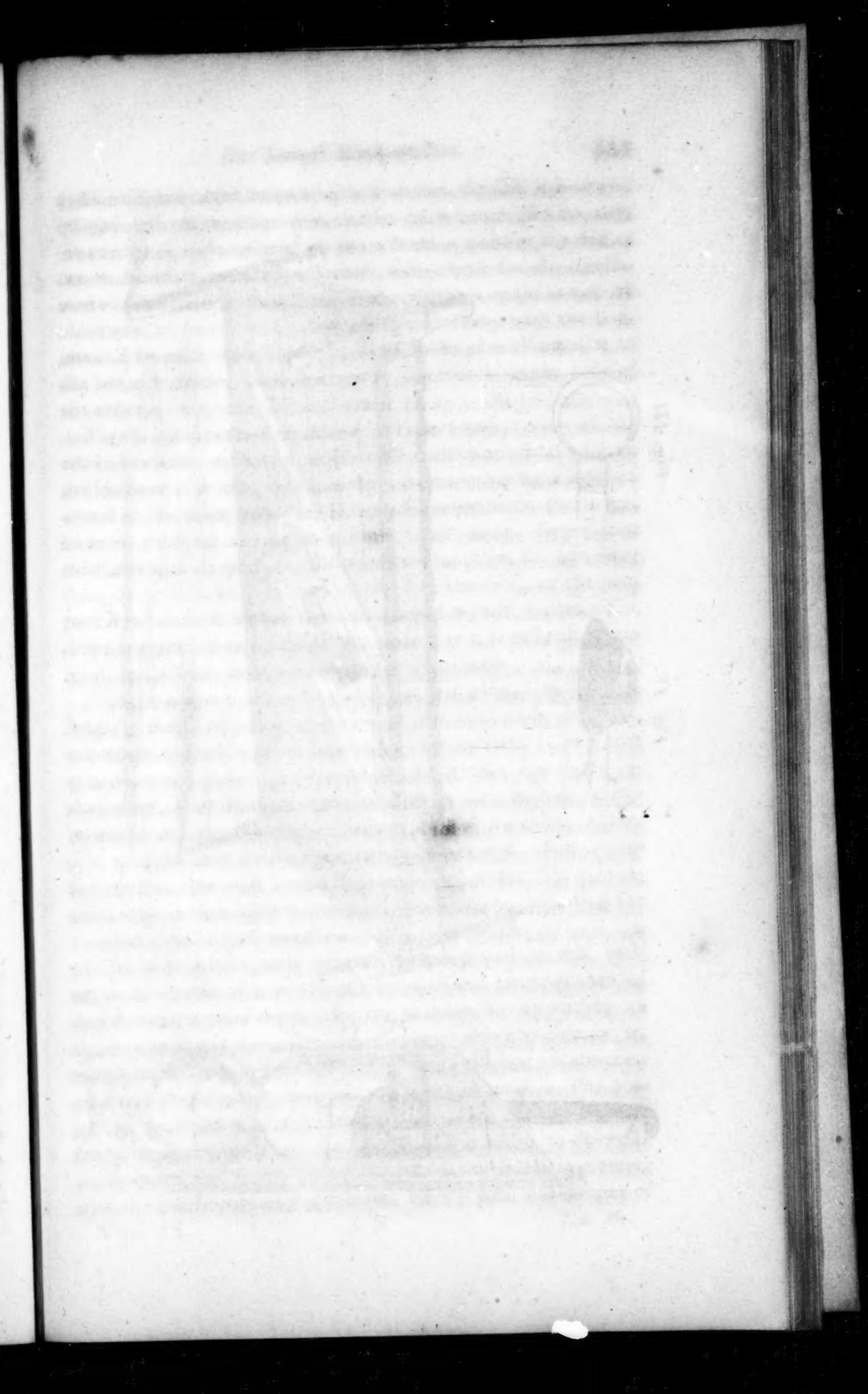
For this purpose the bed is provided with a board bottom, instead of one of sacking. Two holes are required in the slider. One of them, at the lower end, is merely to receive the pan in cleets, passed so as to permit its removal in a direction parallel to the bed side. The other is for the descent of the cushion and circular piece of board to which it is attached, and for the place of operation of the bent piece which forces it up. The remainder of the upper part is flat, to be pushed under the cushion and circular board, and to support them while at rest.

The handle is a flat piece of iron, between three and four feet long, with one end turned up to afford an hold to the hand, and the other forming a regular curve downwards, to tilt up the cushion and board, and then act on them as a wedge.

The cushion is conical, particularly in the direction in which it rises and falls, and both this and the circular board smaller than the aperture in the slider through which it moves, to avoid entanglement in their motions through it. In bedsteads of convenient width for hospitals, the whole is placed obliquely. The handle passes upwards within reach of the right arm of the patient, and the pan is protruded to the side and foot of the bed, in a situation convenient for removal; at the same time the smell is kept at a distance from the patient's head.

In the annexed plate, fig. 1. is a perspective view of the whole apparatus as in actual use; in which may be seen the bedstead, part of the mattress, the slider with its two holes, the flat iron rod, the pan and the cleets or strips of wood in which the moveable parts slide. The end of the rod is seen at the bedside in a situation for the right hand of the patient; and the pan is seen at the opposite side near the foot of the bed. The cushion is here forced up, and the wide part of the slider sustains it.

Fig. 2. Is a view of the slider and iron part AB.



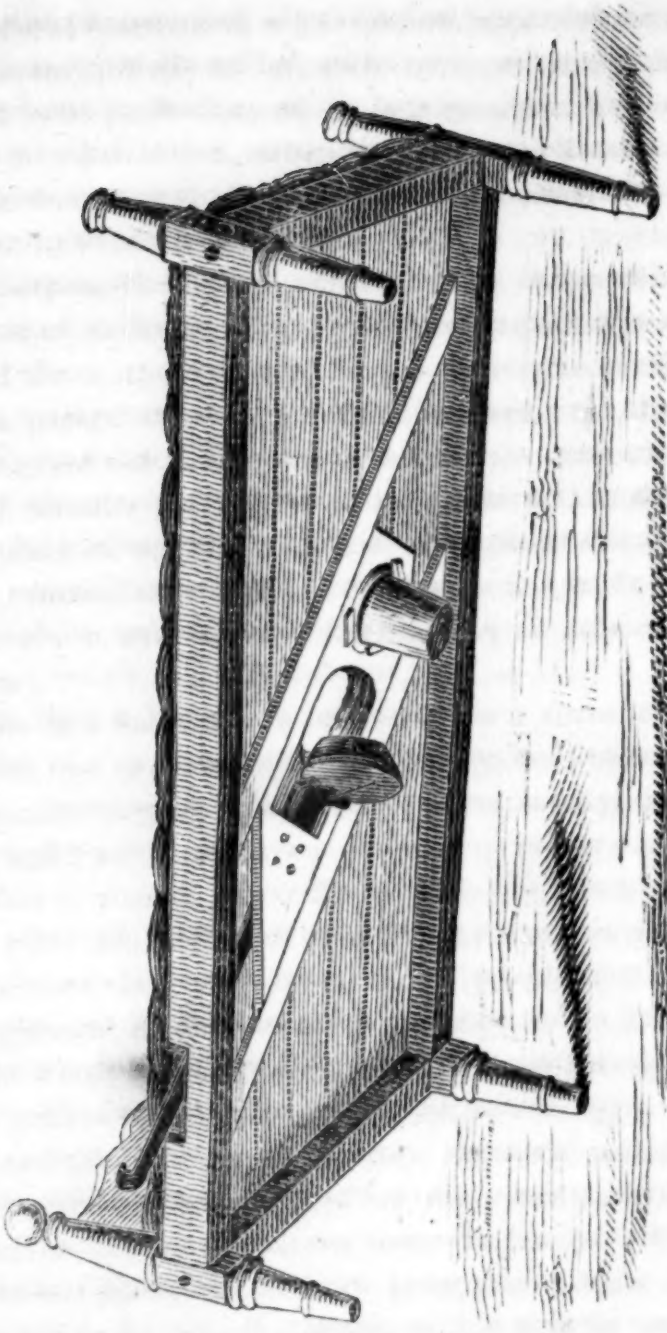
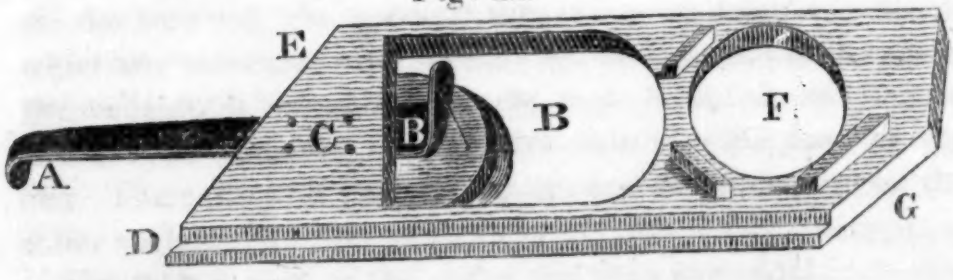


Fig. I.

Fig. III.

Fig. IV.

Fig. II.



C, is placed in the middle of the flat part. At DE it is sawed off obliquely at the edge of the bedstead, when drawn up to it. The letter B is also placed in the vacant space for the fall of the cushion. F, is the circular hole with cleets for the attachment of the pan. At G the end of the slider is again sawed off obliquely, so as to coincide, when thrust down, with the bedside. Two of the cleets are observed to be placed parallel to the bedside, with a third to operate as a check at the side of the others.

Fig. 3. Is a plan, and fig. 4. is a perspective view of the conical cushion with the board to which it is attached. These are designed to show its peculiar form;—sloping a little on all sides, but principally on the side remotest from the hinge, so as to avoid entanglement in rising and falling. To produce this, it is necessary that the top of the cushion be narrower than the bottom or than the board; for instance, in the proportion of six and a quarter to seven and a half inches. The corresponding excavation of the mattress it is difficult to exhibit, but it must be made by similar measures.

The dimensions of a bed made on this plan, was six feet long, by three feet one inch wide in the bottom-board, and, according to the carpenter's term, in the rabbett. The slider was fourteen inches wide, and in the middle line thirty inches long. The circular board was seven and an half inches in width, and the top of the cushion six and a quarter inches. The circular hole in the slider seven and an half inches wide; the square, one inch long by eight inches wide. The pan inside, seven and an half inches wide; and outside, including the rim, nine inches and one-third.

The advantages, over others, contemplated in this bedstead, are principally its simplicity, and the circumstance of its affording a solid support for the cushion, not depending on the tightness of ropes. The importance of this contrivance, by which a very large portion of the weight of the body is supported, must be obvious to those accustomed to fractures. The projection backwards of the sacrum, ilia, and the great glutei muscles works itself a hole in the bed, tending to disorder the fracture, and if not prevented, to bring itself in contact with the hard board at the bottom. Hence pain and danger of

worse consequences, in the form of sloughs from pressure. This is to be prevented in the present apparatus by a thick cushion with a solid, immoveable, board support.

In addition to this, the machine, in common with some others, can be worked by the patient himself, provided he has the use of his right arm; and it protrudes the pan with its offensive contents to the foot of the bed, in a situation remote from his smell and respiration, well covered and convenient for removal. On enquiry of the nurses and others connected with its employment, the machine has been found to answer those objects in a satisfactory manner.

The apparatus in use at the hospital is tight and convenient; and not the least smell is at any time perceived from it, on entering the room. It, in one instance, while new, worked stiffly for a few days, but soon gained more facility, and no difficulty has been since experienced.

September, 1819.

Observations on Diseased Ovaria.

BY EPHRAIM M'DOWELL, M. D.

DEAR SIR, *Sept.* 1819.

I AM induced to make this statement, principally, in consequence of the observations of Dr. Henderson, which appeared in a number of the Repertory, published twelve or fifteen months since; on ovarian disease, and abdominal steatoma.

Since my former communication, I have twice performed the operation of excision; which cases are subjoined.

I shall in the first place take some notice of the remarks of Dr. Michener, which Dr. Henderson in his dissertation has thought worthy of notice. The number of the Repertory, containing the above mentioned remarks, I have unfortunately lost; but believe that I remember most of his principal strictures. In the first case related by me, in Vol. VII. the Doctor appears to take exception to the length of the incision, by pointing out the sentence which stands thus; "I made an incision about three inches from the musculus rectus abdominis on the left side, continuing the same about nine

inches in length." As I did not actually measure the incision, it would, perhaps, have been better to have said, an incision was made, about three inches to the left of the musculus rectus, extending from the margin of the ribs to the os pubis, on a woman whose abdomen was distended by a tumour, to an enormous size. He likewise objects to the parietes of the abdomen being contused, in consequence of the tumour resting on the horn of the saddle, during the patient's journey to Danville. Observing that the "horn of the saddle is on the right side, and the tumour was on the left." Now, with all due deference to the Doctor's knowledge in surgery, and the structure of *side saddles*, I think it would not be difficult to conceive, that a tumour weighing upwards of twenty pounds, would fill the whole abdomen, and although attached to the left ovarium, the weight and bulk must have been almost, if not quite as great, on the right side as on the left. I would observe, that my patient was a woman of small stature; her abdomen had become so pendulous, as to reach almost to her knees; the size of the tumour was ascertained from actual weight. Had the left side of the abdomen been contused, I would either have delayed the operation until the contusion was removed, or operated on some other part. I never have been of opinion, that bruised flesh would heal so readily as sound; which matter I esteem of essential importance to success in this operation. The Doctor also objects to another assertion in this case, viz: "When I visited her on the fifth day, I found her engaged in making up her bed." The Doctor's scepticism, alone, appears to have carried him through the statement, and I am surprised that he will even admit the fact of her returning home, in five and twenty days after the operation, on horseback; a distance of seventy miles, and in the depth of winter.

Dr. Henderson thinks I was entirely too inconsiderate in my detail of the cases of diseased ovaria; I thought my statement sufficiently explicit to warrant any surgeon's performing the operation when necessary, without hazarding the odium of making an experiment; and I think my description of the mode of operating, and of the anatomy of the parts concerned, clear enough, to enable any good anatomist, possessing the

judgment requisite for a surgeon, to operate with safety. I hope no operator, of any other description, may ever attempt it. It is my most ardent wish, that this operation may remain, to the mechanical surgeon, for ever incomprehensible. Such have been the *bane* of the science; intruding themselves into the ranks of the profession, with no other qualification but boldness in undertaking, ignorance of their responsibility, and indifference to the lives of their patients; proceeding according to the special dictates of some author, as mechanical as themselves, they cut and tear with fearless indifference, utterly incapable of exercising any judgment of their own in cases of emergency; and sometimes, without possessing even the slightest knowledge of the anatomy of the parts concerned.

The preposterous and impious attempts of such pretenders, can seldom fail to prove destructive to the patient, and disgraceful to the science. It is by such this noble science has been degraded in the minds of many, to the rank of an art.

No case of diseased ovaria has come under my observation, similar to the one described by Dr. Henderson. The tumours extracted by myself, I have kept by me, in a state of preservation; they have been submitted to the inspection of most, if not all the physicians who have visited me. Their opinions, as to the nature of the disease, have all accorded with my own. In our most scrupulous examinations, we were never able to discover any portion of the tumours to be of a natural or healthy structure; the whole exhibition was that of a morbid undistinguishable mass, which myself and others of the faculty, who were present at the operations, were of opinion, had once been the natural ovaria; in as much as no ovarium remained on the side from whence the tumour was extracted. This was as clearly evident as it could have been on dissection after death; my incisions were made so free and extensive, that I have always performed every part of this operation by sight.

Such ovaria as I have described as dropsical, contained a gelatinous fluid in a sac about half an inch in thickness, and of a spongy texture; such as I have denominated schirrus, were of a spongy texture throughout, and somewhat elastic. Those affected with schirrus, complained of lancinating pains in the parts affected; which, from their description, were simi-

lar to the pains in other schirrous glands. The dropsical ovaria, are attended with a dull pain, and produce a most oppressive sense of weight in the abdomen. By these symptoms, and by a nice sense of touch, the species may generally be distinguished from one another. How to distinguish them from steatoma and other affections which those organs are liable to, I shall not pretend to define, nor, in the present state of knowledge, do I think it at all necessary; nor even the distinction from one another.

Excision I esteem less perilous than any other mode of treatment; and the only certain cure for either of them. For schirrus and steatoma, no other relief, within our knowledge, is practicable.

The dropsical ovaria may be relieved by tapping with a large trocar. But the relief is only temporary, and would be attended with no inconsiderable danger. Some further reasons for my aversion to the trocar, I will relate hereafter.

The second case in which I operated for diseased ovaria, was the case of a negro woman in this neighbourhood. On exposing the tumour (as related in the Repertory, Vol. VII.) it adhered so firmly to the neighbouring parts, that I did not attempt its extraction, but made a free incision into it with the scalpel, and discharged its contents; she recovered of the operation, and I thought her well of the disease; but, she informed me some short time since, that it had been growing for the last twelve or eighteen months, and says it is now, about the size it was when I opened her six years ago.

None of my patients have been able to give me any satisfactory account as to the origin of the disease; with some it commenced some months after delivery. The first supposed herself pregnant, and went on to make the necessary preparation for her lying-in; the time for her delivery being protracted to a great length, and her anxiety and doubts increasing, I was called in, and immediately, on examination, per vaginam, found she was not with child.

Case I.

In April, 1817, I operated on a negro woman from Garard county; extracting a schirrous ovarium, weighing five pounds.

The incision was made near the linea alba; as in cases formerly related, I tied a cord firmly round the ligament attaching it to the uterus, and cut away the ovarium; but owing to the shortness and sponginess of the part, the cord slipped off, before I laid the ovarium out of my hands, and a profuse discharge of blood took place. I immediately drew the uterus to the external incision, and commenced tying up the bleeding mouths separately. This also, in consequence of the diseased state of the parts, proved only of partial efficacy, as several of the ligatures cut through, on tying them. I now thought it all over with my poor patient, but arming a needle with a strong ligature, I passed it round the ligament; securing it in its place by taking several stitches over its surface as I passed it round, and firmly tied it. By turning her nearly on her stomach, I was able to get most of the blood out of the abdomen, using my hand to extract the coagulated portion. The incision was then closed by the interrupted suture, and strips of adhesive plaster. She recovered happily; but, I am told her health is not good; the account I had of her was awkwardly given; from what I could learn, her complaint is hysterical. This, though the smallest ovarium I have ever extracted, was much more troublesome to the patient, than in any previous case. Besides experiencing severe lancinating pains in the parts, she was seldom able to discharge her urine, without geting almost on her head, in consequence of the tumour falling down into the pelvis, and compressing the urethra.

Case II.

A negro woman from Lincoln county, was brought to me in April, 1818, supposed, by the different physicians who had attended her, to be affected with ascites; she had been under their care about eighteen months. On examining her, I could very plainly discover the fluctuation of fluid in the abdomen, and for some months administered medicines for ascites, without effect; despairing of the power of medicines, I at length tapped her, and discharged thirteen quarts of gelatinous fluid, such as I had before met with in dropsical ovaria, of so thick a consistence, that I found it extremely difficult and tedious to discharge it. In two months after, I found it necessary to tap

again; during the process of discharging it a second time, the opening was frequently stopped by viscid portions of the jelly, which were broken by introducing a probe; when the abdomen was pretty well evacuated, I discovered, with the probe, a firm substance, which, on minute examination, I found to be of considerable size. I at once supposed the existence of a dropsical ovarium, in which I was confirmed, on finding the uterus empty by examination per vaginam. Some months after she was again tapped; at which time, I made the opening large enough to admit my finger; by which means, I was able to ascertain the nature of the disease beyond a doubt. I informed her master what was certainly her situation, and that nothing but excision could affect a cure. My advice was not immediately followed, nor until after she was tapped a fourth time; a week or two after which, she was brought to Danville, to undergo the operation, which was performed May 11, 1819. The diseased ovarium being on the left side, and evidently dropsical; the incision was of course made on the left side. On exposing the tumour, it was found to adhere to the parietes of the abdomen; and to the intestines, by slender cords which were easily separated with the hand, and which caused a slight effusion of blood. To the uterus, two strong ligaments adhered; one, the natural ligament, attaching the ovarium to the uterus, the other, an artificial one, attached to the fundus uteri: which appeared to be composed of the abovementioned slender cords, compacted together. I then tied fine cords of silk firmly round each of these ligaments, discharged the contents of the tumour, and cut it away.

There were sixteen quarts of gelatinous fluid discharged from the tumour and abdomen. The dressings and precautions were the same as in other cases. The second day after the operation, she was affected with violent pain in the abdomen; together with an obstinate vomiting. She was blooded as copiously as her strength would allow, but without producing any abatement of the pain or vomiting. On the third day she died. On examination after death, the uterus, contrary to expectation, appeared natural and uninflamed, the right ovarium healthy, the silken cords were securely, and properly fixed, and not in a situation likely to injure the adjoining parts. Her

death had proceeded from peritoneal inflammation. This membrane, throughout its whole extent, appeared greatly inflamed, and the intestines largely inflated.

I was assisted in this operation by my nephew, Dr. William A. M'Dowell. Doctors Weizegar, Tomlinson, and Horr were present.

On examining the substances we had removed, the contents of the sac presented a variety; different portions of the fluid were of different colours: semitransparent, white, brown, and yellow. There was also contained in the sac, a considerable quantity of hair; which grew from the inner surface. Enveloped in the inner substances of the sac, we found a bone, resembling, very much, in shape, the front tooth of a cow.

From the circumstance of the hair and bone, one or two of the physicians present, were inclined to believe the disease originated from an extra uterine conception; and that all of the fœtus had been absorbed, save the hair, and single bone, which was found. This question I submit to the faculty. As for myself, I think it as reasonable to suppose, the hair and bone in this unnatural situation, was the result of a morbid action. She had been delivered of a child two years before the operation, her health during that time was never good, but she had no reason to believe herself pregnant; and if it were the case, I doubt whether a whole fœtus could be so nearly absorbed in two years. There was likewise a round hole in the sac, which, from the levelled appearance of its edges, appeared of long standing; the whole was about the size of a musket ball. And there is no doubt, that the gelatinous fluid escaped through this aperture into the abdomen. This ovarium, when brought into view, was of a large size; which is the more remarkable, when we consider the enormous quantity of fluid which had been drawn off at different times, by the operation of paracentesis abdominis. During the evacuation, a bandage was kept bound tightly round the abdomen; and considerable pressure was made with the hands, in order to evacuate its whole contents. In an attempt to draw off the contents of such a tumour with the trocar, it would be impossible to perforate all the vesicles;* and such only, as were

* That this is the structure of diseased ovaria, I infer, both from autho-

pierced, would discharge their contents. While one portion of the vesicles of the ovaria would discharge themselves into the abdomen, another portion would remain diseased in the original way. Thus compounding in the system, two of the most deplorable diseases to which it is liable.

EPHRAIM M'DOWELL.

DR. JAMES.

Case of Umbilical Hernia, with the Appearances on Dissection.

BY BENJAMIN HUGER, M. D.

Charleston, Aug. 3, 1819.

DEAR SIR,

IT may perhaps be necessary for me to apologize for the intrusion I am about to make upon your leisure, yet I trust that the nature of the subject upon which I write will prove a sufficient excuse. That branch of our profession, which it is your province to teach in the University, is the one to which I have, in a peculiar manner, devoted myself for the last sixteen months. Without further remark, I shall proceed to detail a case of *umbilical hernia*, which, in addition to its being *congenital*, has presented appearances not often witnessed.

On Friday, 30th of July, at an early hour in the morning, Mrs. A———, was delivered of a male child, by a midwife who had always attended her in her previous confinements. The labour was natural, and attended with less suffering than is usual; two severe pains, to use her own expression, were all that she had to complain of. Immediately upon the birth of the child, the midwife discovered something at the umbilicus, which she thought was a second head; yet being a *prudent woman*, did not alarm the mother at the moment. The child being separated, and the placenta removed, the father was informed that something preternatural existed, and that medical aid was necessay. The family physician being sent for, found the child labouring under umbilical hernia, and decided after examination, that it would not be prudent to attempt its return, and of course that nothing was to be done.

rities, and from the difficulty in discharging their contents. I have always been under the necessity of introducing my hand, and raking it forth; the obstacle to the discharge being always a membranous structure.

On the 31st of July, I had an apportunity of seeing the child, which was as healthy and well, apparently, as could have been wished. It had not nursed, because the attendants were unwilling that the mother should see it, yet it eat heartily, and digested well; the bowels were in good order; the passages were natural, both as regards consistence and colour. At this time the tumour presented a most curious appearance. The abdominal integuments were wanting to about the size of a saucer, and the protruding intestines formed a tumour as large as the head of a small child, covered only by the peritoneum. Through this coat the intestinal tube could be plainly seen; much inflammation existed, and great sensibility to the touch was manifested; the vermicular motion could not be perceived, though we were all anxious to view this part of the process. August 1st, I did not see the child in consequence of professional avocations. The bowels during this day were, I understood, in good order. August 2d. The child died this morning, after having lived about seventy-two hours. Many objections were made to our examining the body, yet we at length obtained permission to do so. The tumour presented the following appearances. Upon dividing the peritoneal sac, the small intestines were discovered in a state of violent inflammation, adhering to each other in all possible directions. Having cautiously raised these, we found the liver, spleen and large intestines, the rectum excepted, all forming part of this remarkable tumour. The whole of the liver was not protruded, but by far the greater portion. The kidneys were in their natural situation, and so was the rectum. The stomach was pushed down near the orifice of the sac, but had not yet entered it. With these two exceptions, i. e. stomach and rectum, all of the abdominal viscera were contained in the hernial sac. The child died in convulsions, no doubt, from inflammation in the intestines. Had there been an artist in this city of any eminence, you should have had a correct drawing of this case. Should this description prove satisfactory to you, the only object I have in writing it will have been answered.

I am, my dear Sir, with the utmost respect, your's, &c.

B. HUGER.

P. S. There were present at the opening of the sac, Drs. C. Glover, H. Frost, and myself.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

National Pharmacopœia.

[From the New-England Journal of Medicine and Surgery, for July, 1819.]

At a meeting of the Delegates from various Medical Societies and Institutions in the Eastern District of the United States, convened on the subject of a National Pharmacopœia, in Boston, on the first day of June, 1819—Present as Delegates the following gentlemen:—

From the Medical Society of *New-Hampshire*—Drs. Reuben D. Mussey, Ebenezer Learned, Matthias Spaulding, and John P. Batchelder.

From the Medical Society of *Massachusetts*—Drs. John C. Warren, John Gorham, Jacob Bigelow, James Thacher, and George C. Shattuck.

From the Medical Society of *Vermont*—Drs. Erastus Torrey and Selah Gridley.

From Brown University in *Rhode-Island*—Dr. William Ingalls.

From the Medical Society in *Rhode-Island*—Dr. Solomon Drowne.

From the Medical Society in *Connecticut*—Dr. Eli Ives.

The Convention made choice of Dr. Warren, of Massachusetts, as Chairman, and Dr. Bigelow, of do. as Secretary.

The Delegates being called on to submit their plans for a *Pharmacopœia*, it appeared that such a plan was prepared by the Delegates from *Massachusetts*, but that no other plan was in readiness to be submitted,

Whereupon it was *Voted*, That the Pharmacopœia prepared by the Delegates from *Massachusetts* be adopted as the ground work of the *Pharmacopœia* of this Convention, and that a Committee of one person from each Delegation be appointed to suggest any alterations or amendments in the same, which are proper to be made.

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The following gentlemen were appointed a Committee for

the said purpose, viz.—Drs. MUSSEY, GORHAM, TORREY, INGALLS, and IVES.

The Convention adjourned till 6 o'clock, P. M. to hear the report of their Committee.

Met agreeably to adjournment, at 6, P. M.

The committee reported in part and had leave to sit again.

VOTED, That the same committee be instructed to report whether it is expedient for this Convention to send Delegates to a National Convention at *Washington*, and if any, what number.

Adjourned to meet when the committee should give notice that their report was ready.

June 2. The Convention met, on being notified that their committee was ready to report.

The committee then reported certain additions and alterations, which were severally acted on by the Convention; after which the following sections of the report were adopted.

1. That the Pharmacopœia of the Massachusetts Medical Society, as it is now revised, be adopted by this Convention as their Pharmacopœia; and be presented as such to the General Convention to be holden at Washington in January next.

2. That the number of delegates sent by this Convention to the General Convention shall be two, and that they shall be chosen by ballot.

The Convention then proceeded to the choice of two delegates to the General Convention by ballot, and Dr. IVES and Dr. BIGELOW were chosen.

It was voted, that in case the delegates thus chosen should be prevented from giving their personal attendance at Washington that they be empowered to depute a third person to represent this district in the General Convention.

In order to afford an opportunity for all further additions and improvements which might be proposed, the delegates were authorised to receive communications relative to the subject, and to transmit them to the General Convention.

Voted, To adjourn *sine die*.

Comparison of the Heat at Philadelphia, in 1818 *and* 1819.

A comparison of the heat of June and July, in the years 1818 and 1819, by the same thermometer, placed in the same situation, in this city. Also, a list of the number of deaths in the City and Liberties, in the same two months of those years.

THERMOMETER.

	IN 1818.			IN 1819.		
	At sun-rise	At 3 P.M.	Mean.	At sun-rise.	At 3 P.M.	Mean.
	Out	Within.		Out.	Within.	
June,	68.1	78.0	73.0	65.9	79.4	72.6
July,	71.2	80.7	75.9	68.4	80.8	74.6
Average.	68.7	79.4	74.0	67.2	80.1	73.6

By the above table it appears, that the mean heat of the two months, was 1° 5′ lower at sun-rise this year than the last—that at 3 P. M. it was seven-tenths of a degree hotter, and on the average on sunrise and 3 P. M., the present has been four-tenths of a degree cooler than the year 1818.

Those who believe that the prevalence of malignant fever in our city, is affected by the heat of the summer, may hence draw a favourable conclusion, as this season is not on the whole hotter than the last.

Mortality in the City and Liberties of Philadelphia in June and July, of 1818 *and* 1819.

	Adults.	*Children.*	*Total.*
In nine weeks of 1818, May 30, to August 1, died,	292	249	541
In nine weeks of 1819, May 29, to July 31, died,	233	324	557

By this statement, it appears that the decrease of the deaths of grown persons has been 59 in favour of the present year, and the increase of the deaths of children has been 75—the total increase only 16.

Those who are curious in examining such subjects, may be gratified by turning to the Daily Advertiser of the 9th, or the Freeman's Journal of the 11th of September, 1817. C. E.

Poulson's Paper.

VACCINATION.

By the reports of the Physicians employed by the City Councils, for the gratuitous Vaccination of the poor, it appears that *twelve hundred and five* persons have been successfully vaccinated, from July 1, 1817, to June 30, 1819.

Copy of the Report to the Secretary of State for the Home Department, from the National Vaccine Establishment, dated 8th April, 1819.

[From the London Medical Repository, for July, 1819.]

To the Right Honourable Lord Viscount Sidmouth, Principal Secretary of State for the Home Department, &c.

National Vaccine Establishment, Percy Street, 8th April, 1819.

My Lord,

The Board have the honour of reporting to your Lordship, that during the year 1818, the number of persons vaccinated at the stations in London and the vicinity, have amounted to 6,289; and their correspondents throughout the kingdom have reported that they have vaccinated 57,897. These numbers, however, are not to be considered as the whole, for many Surgeons who are supplied with vaccine lymph from this establishment, do not report the entire numbers of those whom they vaccinate.

From the first establishment of the Board in 1808, an annual increase has taken place in the demand for vaccine lymph, of which 50,116 charges have been distributed to the public during the preceding year.

The Board have much satisfaction in laying before your Lordship unequivocal evidence of the increasing advantages of the Jennerian discovery: for it appears from the bills of

mortality of London, that instead of two thousand deaths by small-pox, which were the annual average previous to the practice of vaccination, there died last year only four hundred and twenty-one.

It will be gratifying to your Lordship to know, that independently of the continued distribution of vaccine lymph from this Board to all parts of the British dominions, the reputation of its purity is such, that applications for a supply are often made from foreign countries.

Five cases have been reported to the Board, of vaccinated persons who have subsequently died of small-pox. In one of these cases it was clearly ascertained, that the only vaccine vesicle which had been excited, was disturbed and broken in its progress, which there is great reason for believing has been a frequent cause of the insecurity of vaccination; in the other cases no detail respecting the vaccination could be obtained; and they were, moreover, all vaccinated at a period of time when the mode of vaccination, and the management of the vesicle, were not well understood.

In several parts of the United Kingdom, particularly near Edinburgh, an anomalous disease, bearing some resemblance to small-pox, has appeared in many persons. It has been described by several professional gentlemen of great eminence and experience. From their statement, it appears, that this eruption attacked indiscriminately persons who had been previously vaccinated, who had had the small-pox, or who had not gone through either disease.

Of whatever defined nature this eruption may be considered, it is highly gratifying to remark, that no death occurred in any person who had been previously vaccinated, neither was it in them so violent; whereas in many others it was malignant, and proved mortal to several. It has therefore been justly concluded, from the investigation which has been instituted in Edinburgh, that the circumstances which have occurred in the history of this eruption, more strongly confirm the utility of vaccination.

As a diversity of opinion, however, has prevailed of the precise nature of this eruption, among those who witnessed it, considerable alarm has been excited in the public mind. The Board are unable to form any very decided opinion upon this

subject; because, in the cases where this varioloid disease is stated to have occurred subsequently to small-pox, the symptoms of the small-pox have not been detailed; and in the cases where it followed the vaccine, the particulars of the vaccine process, except in a few instances, are omitted. But in these few it appears, that the vaccine process had not been conducted on the plan recommended by this Board, and which experience has proved to be most efficacious.

In London, some eruptive cases have occurred in persons who had been previously vaccinated: these the Board have had opportunities of examining; and it has been discovered by the directors, that the eruption in most instances was the chicken-pox; in a few, the mitigated small-pox; and it should not be passed unnoticed, that in all these latter cases vaccination had been performed and conducted in the manner which was originally frequently practised, before the adoption of the superior method which has been recommended by the Board, and which they have taken much pains to inculcate in their printed directions.

For it is a fact which cannot be too strongly impressed upon the public, that there is a considerable difference of success in the different modes of inserting and conducting the vaccine. Hence the Board are informed by some Surgeons, that a portion of their vaccinated patients have been subsequently affected with small-pox, though in a mild form; while other Surgeons state, that they have vaccinated many thousands without a single failure. As, however, the cases vaccinated at the stations of the Board are all registered, they possess the sure means of ascertaining the real effects of correct vaccination.

From the foundation of this Establishment in the year 1808, to the present year, there have been vaccinated at these stations in London 52,253 persons. Only four of these are yet known to have had the small-pox afterwards, and these were never very seriously ill. This triumphant success of the National Vaccine Establishment in London, where the small-pox infection is always unfortunately prevalent, proves decidedly, both the superior virtues of the vaccine, and the excellence of the method of practice adopted and recommended by the Board. They therefore feel it an imperious duty strongly to urge the

medical profession at large to sacrifice their peculiar notions of practice, however ingenious, and to adopt literally that plan which by much experience has been found so effectual.

The Board feel it a duty to submit to his Majesty's Government, the propriety of encouraging the enforcement of the existing laws against the exposure of persons labouring under the small-pox, as a mean not only of preserving the community from variolous contagion, but of more generally diffusing the inestimable advantages of the Jennerian discovery.

J. LATHAM,
President of the Royal College of Physicians.

HENRY AINSLIE,
E. D. NEVINSON,
RICHARD HARRISON,
G. D. YEATES,
} Censors of the Royal College of Physicians.

T. KEATE, Master of the Royal College of Surgeons.

DAVID DUNDAS,
THOMPSON FORSTER,
} Governors of the Royal College of Surgeons.

By order of the Board,
JAMES HERVEY, M. D. Registrar.

University of Pennsylvania.

The Medical Lectures will commence, as usual, on the first Monday of November.

Anatomy,	by Dr. Physick,
Practice of Physic, &c.	Dr. Chapman,
Midwifery, &c.	Dr. James,
Chemistry,	Dr. Hare,
Surgery,	Dr. Gibson,
Materia Medica and Pharmacy,	Dr. Coxe.

Philadelphia, September 8.

Poisonous Drugs.

By the bill now in Parliament, to protect the public in the sale of poisonous drugs, it is proposed to make it imperative on all apothecaries and others to affix a printed label, with the word 'poison,' on every phial, box, or parcel, into which they

put white arsenic, corrosive sublimate, acetate, carbonate, muriate, or nitrate of barytes, oxalic acid, sugar of lead, prussic acid, tartar emetic, solid opium, or laudanum sold by them. All arsenic kept for sale is to be mixed with carbon, and all oxalic acid with rose pink. Penalties to be recovered upon information and conviction before a justice of the peace.

London Newspaper.

PENNSYLVANIA HOSPITAL.

Patients remaining in the house, April 25, 1818,		174
Admitted from that time to April 24, 1819,		718
		——892
Of these the number cured, is,		415
relieved,		103
removed,		55
women safely delivered,		24
infants born and well,		19
discharged disorderly,		3
eloped,		22
dead,		54
remains,		197
		——892

Obituary.

Died June 16, 1819, near Alexandria, District of Columbia, Doctor WARWICK P. MILLER, aged twenty-three years.

The Madhouse at Aversa, Kingdom of Naples.

This establishment will in a very short time be classed among the principal institutions of useful arts and manufactures. M. Linguiti, director of this hospital, which is the only one of its kind in Europe, makes continued experiments to cure these unhappy people; from which he always obtains the result, that moderate work, combined with agreeable amusement, is the best means. For which reason there is at present in this house a printing office, where several works have already been printed, and at which many of these unhappy people are employed.—Others, who after the paroxysm is over, recover for a short time the use of their reason, are engaged in making translations from the English and French into the Italian lan-

guage. Besides this, many are occupied with music, others with husbandry and various other works, but particularly so in a manufactory of woollen cloth. By this means this miserable class of people, once an incumbrance to their families, become useful to society, and put many idlers to the blush. This kind of treatment is introduced not only in the hospital for male patients, but also in that of the women. M. Linguiti manages the whole establishment with wise economy. The table is always served with silver, and the whole house is handsomely fitted up; so that wherever the inhabitants turn their eyes they find something to relieve the mind. Formerly the windows were secured with iron bars; but instead of this there are now flowers curiously made of iron, and painted from nature, as if growing, which remove every idea of forced confinement. A handsome domain adjoining the hospital, serves for the recreation of the patients.

MEDICAL STATISTICS.

[From the London Medical and Physical Journal, for June, 1819.]

Extracts from the Bills of Mortality, drawn by the twelve Municipalities of Paris, for the year 1818.

The number of deaths in the city during the year, was		21,821
Of which there happened in private residences,		14,478
Of the male sex,	7,183	
female,	7,295	
The remaining - - - -		7,343
took place in hospitals; of which 3,633 were males,		
and 3,710 females.		
The number of persons who died from small-pox, was -		682

It is well known, that this afflicting result from the small-pox, the ravages of which have lately been progressive, can only be attributed to the influence of the priests, who preach against vaccination.

Amongst the 21,821 deaths, are comprised 257 which occurred in jails, or of persons whose dead bodies were deposited in the offices of the police; of which there were 202 males and 55 females.

Those from suicide have not been distinctly calculated, but the number appears to have been very considerable; and it has, for several years past, progressively increased.

The principal causes of mortality are stated as follows:

	Men.	Women.	Total
Fevers, putrid or adynamic, - - -	400	443	843
——— malignant or ataxic, - - -	391	424	715
——— intermittents, - - - -	171	319	490
Phlegmasiæ, cutaneous, - - -	746	649	1,395
——— of the mucous membranes,	1,237	1,453	2,690
——— of the serous membranes, -	202	281	483
——— of the cellular tissue and the parenchymatous organs,	1,454	1,858	3,312
Comatose affections, - - - -	496	503	972
Spasmodic ——— - - - -	787	732	1,519
Local nervous —— - - - -	501	512	1,013
Organic lesions, general, - - -	1,895	2,063	3,958
———, particular, - - -	802	900	1,702
Gangrenous inflammation, - - -	80	101	181
Puerperal women, - - - - -		75	75

Many children died from spasmodic affection, at an early age; for instance:

From one day to three months,	250
— three months to six months,	126
— six months to one year,	232
— one year to two years,	341
— two years to three years,	117

	Males.	Females.	Total.
There died before the age of three months,	2,202	1,752	3,944
Before the age of two years, - - -	3,434	3,033	6,467

The total number of deaths between two and five years, was - - - - - - - - - - 1,784

Between five and ten - - - - -	1,034
ten and twenty - - - -	1,257
twenty and thirty - - - -	1,658
thirty and forty - - - -	1,480
forty and fifty - - - - -	1,568
fifty and sixty - - - -	1,786
sixty and seventy - - - -	2,281
seventy and eighty - - - -	2,006
eighty and ninety - - - -	781
ninety and ninety-five - - -	59
ninety-five and a hundred - - -	7
Above a hundred - - - - - -	0

MEDICAL BENEVOLENT SOCIETY.

[From the London Medical Repository, for July, 1819.]

Medical Benevolent Society.—This Society is founded, in the first place, for the relief of those Members who are in distressed circumstances from mental or bodily infirmity, or from other causes, or who shall be considered deserving assistance, *although they may not have attained the age of sixty years;* and, secondly, to secure to those persons who shall become Members of the Society, and shall have subscribed, for at least ten years, according to the scale fixed by the Society, an Annuity, *when they shall have attained the age of sixty years.*

Two *distinct* funds therefore have been formed to effect the above purposes,—the *benevolent* and the *annuitant*; and subscriptions to either or both will secure to the Members respective benefits, according to the laws and regulations of the Society.

The subscriber of a sum even less than fifty pounds, before he attains the age of twenty-six, as may be seen by the scale, will secure to himself, without farther expence or trouble, an *annuity* of at least that amount when he arrives at sixty years of age; whilst during the interval he may depend upon pecuniary assistance, should his health or his means fail, notwithstanding he *may not* have completed his sixtieth year; and no further arguments, therefore, it is now presumed, can be necessary, in order to recommend an Institution calculated to ensure so much of actual benefit, not only to the individual subscriber and his family, but to the Medical Profession at large.

The subscription of 26*l.* 5*s.* in addition to the admission fee of one guinea, constitutes a life member to the benevolent fund. The annual subscription to this fund 1*l.* 1*s.*

List of Officers.

Patron.—His Royal Highness the Duke of Sussex.

President.—John Latham, M. D., President of the Royal College of Physicians.

Vice-Presidents.—Henry Cline, Esq. John Hull, M. D.; Arthur Tegart, Esq.

Directors.—G. G. Currey, M. D.; Thomas Drever, M. D.;

S. Luke, M. D.; Robert Hooper, M. D.; H. Ainslie, M. D.; W. F. Chambers, M. D.; Physicians:—H. L. Thomas, Esq.; R. R. Pennington, Esq.; John Abernethy, Esq.; Edward Stanley Esq.; Robert Keate, Esq.; W. Wadd, Esq.; Surgeons:—Neville Wells, Esq.; Edward Browne, Esq.; Richard Simmons, Esq.; John Hunter, Esq.; James Seaton, Esq.; Richard Walker, Esq.; Apothecaries.

Trustees.—John Latham, M. D.; Henry Cline, Esq.; Richard Radford, Esq.; John Bayford, Esq.

Treasurers.—H. Clutterbuck, M. D., New Bridge Street; Henry Field, Esq., Christ's Hospital; Richard Ogle, Esq., Great Russel Street, Bloomsbury.

Secretary.—Mr. H. C. Field, 95, Newgate Street.

Solicitor.—Charles Murray, Esq., 13, John Street.

Collector.—Mr. Thomas Upton, No. 2, Bell's Buildings, Salisbury Square. *Bankers.*—Messrs. Childs, Temple Bar.

Table shewing the Sum to be paid at one Payment, or to be paid annually, in order to secure an Annuity of 50*l. to the Subscriber during the Remainder of his Life, after having attained the Age of Sixty, and after having been a Subscriber ten Years.*

Age.	Single Payment.		Annual Payment.		Age.	Single Payment.		Annual Payment.	
	£	s	£	s		£	s	£	s
21	39	8	2	12	41	122	16	11	13
22	41	12	2	16	42	130	12	12	16
23	43	18	2	19	43	138	18	14	3
24	46	8	3	3	44	147	18	15	11
25	49	0	3	8	45	157	8	17	8
26	52	0	3	12	46	167	16	19	5
27	55	10	3	18	47	178	18	21	15
28	58	0	4	3	48	190	18	24	3
29	61	4	4	9	49	203	16	27	17
30	65	0	4	16	50	217	16	31	11
31	68	16	5	5	51	209	7	26	12
32	74	14	5	15	52	200	17	25	14
33	76	16	6	1	53	192	4	24	14
34	81	6	6	9	54	183	11	23	14
35	88	10	6	19	55	174	14	22	14
36	91	6	7	10	56	165	18	21	14
37	96	16	8	4	57	156	19	20	12
38	102	14	8	18	58	148	0	19	12
39	109	0	9	15	59	138	19	18	10
40	115	10	10	11	60	129	18	17	10

Jacobs' lately discovered Membrane in the Eye.

Extract from a Letter to one of the Editors; from John Edwards Holbrook, M. D., dated Dublin, July 20, 1819.

"I have taken the liberty of communicating to you, the method of dissecting and displaying a membrane lately discovered in the eye by Mr. Jacobs, demonstrator of anatomy, in the College of this place, who very kindly instructed me how to find it. The sclerotic coat of the eye is to be removed as usual, without injury to the choroides. The eye is now to be placed under water; with a forceps in each hand, gently tear off the choroid coat to a sufficient distance, commencing at the place where the optic nerve enters the eye. This will lay bare what was formerly supposed to be the retina—it is not: but a distinct membrane; for it can easily be detached from the retina, by insinuating the handle of the scalpel under it, near the entrance of the optic nerve, and gently pushing it down. When this membrane is thus removed, still the two coats of the retina will remain as described by anatomists. As it adheres more closely about those places where the retina receives blood-vessels, Mr. Jacobs is of opinion that it also derives nourishment from the same source. Now, in order to display this or any other preparation of the eye, Mr. Jacobs makes use of semi-globular glass vessels, that will magnify the object about three diameters. These are to be accurately fitted to glass plates by grinding. The vessel being filled with water, is placed over the eye on the plate. Thus you have a preparation that can be moved without fear of injury, and an excellent view of the desired object on all sides."

The Royal Society of London.

A paper, by Sir E. Home, was read, January 14, 1819, on the Corpora Lutea. The texture of the ovarium before puberty is loose and open, and contains globular cells. After puberty, the corpora lutea are found in the substance of the ovarium. In the cow, they form a mass of convolutions, which Sir E. compared to those of the brain. The ova are formed in the corpora lutea; and, according to our author, exist previously to,

and independently of, sexual intercourse; and when the ova are formed, the corpora lutea are destroyed by absorption, whether the contained ova are impregnated or not. Sir E. thinks that impregnation is necessary to the expulsion of the ova, and that the corpus luteum is burst by extravasated blood, its cavity, after the escape of the ovum, being found distended with blood in a coagulated state. When impregnation does not take place, the ovum remains in the cavity of the corpus luteum. Hence the author thinks it probable that the ovum is impregnated in the ovarium itself.

Beautiful drawings, illustrative of these points, accompanied the paper, founded chiefly on the observations of Mr. Bauer, who assisted Sir Everard in the present inquiry.

April 22.—A paper was read, by Sir Everard Home, on the ova of the opossum tribe. After alluding to the formation of the ova of quadrupeds, as described by him on a former occasion, the author proceeded to the subject of his present paper. The ova of the opossum tribe are formed differently from the ova of quadrupeds, and constitute two distinct gradations between that class of animals and the ornithorhynchus paradoxus, which last approaches so near the bird as to complete the series between quadrupeds and birds. The formation of an ovum in the kangaroo was first described. This, when expelled from the corpus luteum, receives a yolk in the follopian tube, and subsequently an albumen in the uterus. The fœtus, when removed from the uterus into the marsupium, attaches itself to the nipple as formerly described.* In the wombat, and the great and small opossum, instead of corpora lutea, yolk bags are imbedded in the substance of the ovarium, and there are two uteri with a fallopian tube to each, the ovum in each uterus being separately impregnated in its own cavity. The mode of formation of the ova in the ornithorhynchus paradoxus constitutes the intermediate link between the opossum and bird. In this animal, the yolk bags are imbedded in the ovaria, and instead of a regular uterus, each fallopian tube swells out into a cavity in which the ova are impregnated.

* See Phil. Trans. vol. lxxxv. and c.

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